FLOWERING PLANTS OF GREAT BRITAIN

ANNE PRATT

ISAAC FOOT

AGRICULTURAL
THE LIBRARY
OF
THE UNIVERSITY
OF CALIFORNIA
RIVERSIDE

Ex Libris
ISAAC FOOT

THE

FLOWERING PLANTS,

GRASSES, SEDGES, AND FERNS

OF

GREAT BRITAIN,

AND THEIR ALLIES

THE CLUB MOSSES, PEPPERWORTS AND HORSETAILS.

By ANNE PRATT,

AUTHOR OF OUR "NATIVE SONGSTERS," "WILD FLOWERS," ETC.

PUBLISHED UNDER THE DIRECTION OF
THE COMMITTEE OF GENERAL LITERATURE AND EDUCATION, APPOINTED BY
THE SOCIETY FOR PROMOTING CHRISTIAN KNOWLEDGE.

VOL. III.

(FLOWERING PLANTS, WITH 283 SPECIES COLOURED.)

LONDON:
FREDERICK WARNE AND CO.
BEDFORD STREET, STRAND.

LONDON:
BRADBURY, AGNEW, & CO., PRINTERS, WHITEFRIARS.

LIST OF PLANTS IN VOL. III.

280 SPECIES ILLUSTRATED

		Plate	Fig.	Page
Achillæa Ptarmica	Sneeze-wort Yarrow	129	5	323
decolorans	Dotted-leaved Yarrow	129	6	325
Millefolium	Common Yarrow	129	7	325
tomentosa	Woolly Yellow Milfoil	129	8	327
Adoxa moschatellina	Tuberous Moschatell	95	1	90
Ægopodium Podagraria	Common Gout-weed	85	7	26
Andromeda polifolia	Marsh Andromeda	134	4	373
Angelica Archangelica	Garden Angelica	90	1	52
sylvestris	Wild Angelica	90	2	54
Antennaria dioica	Mountain Everlasting	121	3	271
margaritacea	Pearly Everlasting	121	4	272
Anthemis nobilis	Common Chamomile	123	6	317
anglica	Sea Chamomile	129	1	320
tinctoria	Ox-eye Chamomile	129	2	321
arvensis	Corn Chamomile	129	3	321
Cotula	Stinking Chamomile	129	4	322
Anthriscus sylvestris	Wild Beaked-Parsley	92	4	77
Cerefolium	Garden Beaked-Parsley	92	5	78
vulgaris	Common Beaked-Parsley	92	6	78
Apargia hispida	Rough Hawkbit	107	1	191
autumnalis	Autumnal Hawkbit	107	2	191
Apium graveolens	Smallage, or Wild Celery	84	6	17
Arbutus Unedo	Austere Strawberry-tree	134	5	374
Arctium Lappa	Common Burdock	114	4	224
Arctostaphylos alpina	Black Bearberry	134	6	379
Uva-ursi	Red Bearberry	134	7	379
Artemisia campestris	Field Southernwood	120	1	262
vulgaris	Common Mugwort	120	2	262
Absinthium	Common Wormwood	120	3	264
maritima	Sea Wormwood	120	4	267
cærulescens	Bluish Wormwood	120	5	269
Asperula odorata	Sweet Woodruff	101	4	156
Cynanchica	Small Woodruff, or Squinancy-wort	101	5	159
arvensis	Field Woodruff	101	6	160

		Plate	Fig.	Page
Aster Tripolium	Sea Starwort	124	1	235
Azalea procumbens	Trailing Azalea	134	3	372
Bellis perennis	Common Daisy	127	6	303
Bidens cernua	Nodding Bur-Marigold	119	1	256
tripartita	Trifid Bur-Marigold	119	2	259
Borkhausia fœtida	Stinking Borkhausia	111	1	205
taraxacifolia	Smaller Rough Borkhausia	111	2	205
Bunium flexuosum	Common Earth-nut	86	4	29
Bupleurum aristatum	Narrow-leaved Hare's-ear	87	3	32
rotundifolium	Common Hare's-ear	87	4	32
tenuissimum	Slender Hare's-ear	87	5	35
falcatum	Falcate-leaved Hare's-ear	87	6	35
Calluna vulgaris	Common Ling	133	7	368
Campanula patula	Spreading Bell-flower	130	1	330
Rapunculus	Rampion Bell-flower	130	2	331
persicifolia	Peach-leaved Bell-flower	130	3	332
rotundifolia	Harebell	130	4	333
latifolia	Giant Bell-flower	130	5	338
rapunculoides	Creeping Bell-flower	130	6	340
Trachelium	Nettle-leaved Bell-flower	130	7	341
glomerata	Clustered Bell-flower	130	8	342
hederacea	Ivy-leaved Bell-flower	130	9	343
hybrida	Corn Bell-flower	130	10	344
Carduus nutans	Musk Thistle	115	1	228
acanthoides	Welted Thistle	115	2	229
tenuiflorus	Slender-flowered Thistle	115	3	230
Marianus	Milk Thistle	115	4	230
Carlina vulgaris	Common Carline-Thistle	117	5	246
Carum Carui	Common Caraway	86	1	27
Bulbocastanum	Tuberous Caraway	86	2	28
verticillatum	Whorled Caraway	86	3	28
Caucalis daucoides	Small Bur-Parsley	94	2	87
latifolia	Great Bur-Parsley	94	3	87
Centaurea Jacea	Brown-rayed Knapweed	118	1	249
nigra	Discoid Knapweed	118	2	250
Scabiosa	Greater Knapweed	118	3	251
Cyanus	Corn Bluebottle	118	4	252
Isnardi	Jersey Thistle	118	5	255
Calcitrapa	Common Star-Thistle	118	6	255
Centranthus ruber	Spur Valerian	102	1	161
Chærophyllum temulentum	Rough Chervil	93	1	79
aureum	Tawny-fruited Chervil	93	2	80
aromaticum	Broad-leaved Chervil	93	3	80
Chrysanthemum Leucanthemum	Great White Ox-eye	123	1	311
segetum	Corn Marigold	123	2	313
Cichorium Intybus	Wild Succory	114	3	219

		Plate	Fig.	Page
Cicuta virosa	Cowbane	84	5	16
Cnicus lanceolatus	Spear Plume-Thistle	116	1	231
palustris	Marsh Plume-Thistle	116	2	233
arvensis	Creeping Plume-Thistle	116	3	234
eriophorus	Woolly-headed Plume-Thistle	116	4	237
heterophyllus	Melancholy Plume-Thistle	116	5	237
tuberosus	Tuberous Plume-Thistle	117	1	238
pratensis	Meadow Plume-Thistle	117	2	238
acaulis	Dwarf Plume-Thistle	117	3	238
Conium maculatum	Common Hemlock	91	5	68
Coriandrum sativum	Common Coriander	91	4	66
Cornus sanguinea	Wild Cornel	95	3	108
Suecica	Dwarf Cornel	95	4	112
Crepis virens	Smooth Hawk's-beard	110	1	203
biennis	Rough Hawk's-beard	110	2	204
pulchra	Small-flowered Hawk's-beard	110	3	204
succisæfolia	Succory-leaved Hawk's-beard	110	4	204
paludosa	Marsh Hawk's-beard	110	5	204
Crithmum maritimum	Sea-Samphire	89	7	50
Daucus Carota	Wild Carrot	93	5	82
maritimus	Sea-side Carrot	94	1	86
Diotis maritima	Sea-side Cotton-weed	119	3	252
Dipsacus sylvestris	Wild Teasel	104	2	168
fullonum	Fuller's Teasel	104	1	170
pilosus	Small Teasel	104	3	172
Doronicum Pardalianches	Great Leopard's-bane	126	3	295
plantagineum	Plaintain-leaved Leopard's-bane	126	4	297
Echinophora spinosa	Sea-side Prickly Samphire	94	7	89
Erica ciliaris	Ciliated Heath	133	1	359
Tetralix	Cross-leaved Heath	133	2	359
Mackayi	Mackay's Heath	133	3	360
cinerea	Fine-leaved Heath	133	4	360
vagans	Cornish Heath	133	5	367
Mediterranea	Mediterranean Heath	133	6	368
Erigeron Canadensis	Canada Flea-bane	123	3	284
acris	Blue Flea-bane	123	4	285
alpinus	Alpine Flea-bane	123	5	285
Eryngium maritimum	Sea-Holly	84	3	14
campestre	Field Eryngo	84	4	16
Eupatorium cannabinum	Common Hemp-Agrimony	121	1	269
Fedia olitoria	Common Corn-salad	103	1	165
carinata	Carinated Corn-salad	103	2	166
Auricula	Sharp-fruited Corn-salad	103	3	166
dentata	Smooth Sharp-fruited Corn-salad	103	4	167
Filago Gallica	Narrow-leaved Filago	122	5	277

		Plate	Fig.	Page
Filago minima	Least Filago	122	6	278
Germanica	Common Filago	122	7	278
Fœniculum vulgare	Common Fennel	89	2	42
Fraxinus excelsior	Common Ash	136	3	399
Galium verum	Yellow Bed-straw	99	2	145
cruciatum	Crossleaved Bed-straw	99	3	148
saxatile	Smooth Heath Bed-straw	99	4	148
pusillum	Least Mountain Bed-straw	99	5	149
uliginosum	Rough Marsh Bed-straw	99	6	149
palustre	White Water Bed-straw	100	1	150
erectum	Upright Bed-straw	100	2	150
Mollugo	Great Hedge Bed-straw	100	3	150
boreale	Cross-leaved Bed-straw	100	4	151
Parisiense	Wall Bed-straw	100	5	152
saccharatum	Warty-fruited Bed-straw	100	6	152
spurium	Smooth-fruited Bed-straw	100	7	153
tricorne	Rough-fruited Corn Bed-straw	101	1	153
Aparine	Goose-grass, or Cleavers	101	2	153
Gnaphalium luteo-album	Jersey Cudweed	122	1	273
sylvaticum	Highland Cudweed	122	2	274
uliginosum	Marsh Cudweed	122	3	277
supinum	Dwarf Cudweed	122	4	277
Hedera Helix	Common Ivy	95	2	93
Helioscadium nodiflorum	Procumbent Marsh-wort	85	4	24
inundatum	Least Marsh-wort	85	5	25
Helminthia echioides	Bristly Ox-tongue	106	3	189
Heracleum Spondylium	Common Cow-parsley	91	1	61
Hieracium Pilosella	Mouse-ear Hawkweed	112	1	211
aurantiacum	Orange Hawkweed	112	2	213
alpinum	Alpine Hawkweed	112	3	213
nigrescens	Black-headed Hawkweed	112	4	214
pallidum	Pale Hawkweed	112	5	214
murorum	Wall Hawkweed	112	6	214
sylvaticum	Wood Hawkweed	112	7	214
cerinthoides	Honey-wort Hawkweed	113	1	215
prenanthoides	Rough-bordered Hawkweed	113	2	215
boreale	Shrubby Broad-leaved Hawkweed	113	3	216
umbellatum	Narrow-leaved Hawkweed	113	4	216
Hydrocotyle vulgaris	Common White-Rot	84	1	11
Hypochæris glabra	Smooth Cat's-ear	107	4	192
radicata	Long-rooted Cat's-ear	107	5	192
maculata	Spotted Cat's-ear	107	6	193
Ilex Aquifolium	Common Holly	136	1	387
Inula Helenium	Elecampane	127	1	298
Conyza	Ploughman's Spikenard	127	2	299
crithmoides	Golden Samphire	127	3	301
Jasione montana	Annual Sheep's-bit	131	3	346

		Plate	Fig.	Page
Knautia arvensis	Field Knautia	105	3	175
Lactuca virosa	Strong-scented Lettuce	108	1	193
Scariola	Prickly Lettuce	108	2	196
saligna	Least Lettuce	108	3	198
muralis	Ivy-leaved Lettuce	108	4	198
Lapsana communis	Common Nipple-wort	114	1	218
pusilla	Dwarf Nipple-wort	114	2	218
Leontodon Taraxacum	Common Dandelion	111	3	205
Ligusticum Scoticum	Lovage	89	4	47
Ligustrum vulgare	Privet	136	2	396
Linnæa borealis	Two-flowered Linnæa	98	4	140
Linosyris vulgaris	Flax-leaved Goldy-locks	121	2	271
Lobelia urens	Acrid Lobelia	131	4	348
Dortmanna	Water Lobelia	131	5	349
Lonicera Caprifolium	Pale Perfoliate Honeysuckle	98	1	135
Periclymenum	Common Honeysuckle	98	2	136
Xylosteum	Upright Fly-Honeysuckle	98	3	140
Matricaria Parthenium	Common Fever-few	128	3	314
inodora	Scentless Mayweed	128	4	315
Chamomilla	Wild Chamomile	128	5	316
Menziesia cærulea	Scottish Menziesia	134	1	371
polifolia	Irish Menziesia	134	2	372
Meum athamanticum	Meu or Bald-money	89	6	49
Moneses grandiflora	Large-flowered Moneses	135	1	381
Monotropa Hypopitys	Yellow Bird's-nest	135	6	384
Mulgedium alpine	Alpine Blue Sow-thistle	109	1	199
Myrrhis odorata	Sweet Cicely	93	4	80
Œnanthe fistulosa	Common Water-Dropwort	88	1	35
pimpinelloides	Callous-fruited Water-Dropwort			36
Lachenalii	Parsley Water-Dropwort	88	2	37
silaifolia	Sulphur-wort Water-Dropwort	88	3	37
crocata	Hemlock-leaved Water-Dropwort	88	4	38
fluviatilis	River Water-Dropwort	88	6	41
Phellandrium	Fine-leaved Water-Dropwort	88	5	40
Œthusa Cynapium	Fool's Parsley	89	1	41
Onopordum Acanthium	Common Cotton-thistle	117	4	240
Pastinaca sativa	Wild Parsnep	90	6	59
Petasites vulgaris	Common Butter-bur	123	1	279
Petroselinum sativum	Common Parsley	85	1	20
segetum	Corn Parsley	85	2	23
Peucedanum officinale	Sea Hog's-fennel, or Sulphur-weed	90	3	55
palustre	Marsh Hog's-fennel, or Milk-parsley	90	4	57
Ostruthium	Broad-leaved Hog's-fennel	90	5	58
Physospermum Cornubiense	Cornish Bladder-seed	92	1	72

		Plate	Fig.	Page
Phyteuma orbiculare	Round-headed Rampion	131	1	345
spicatum	Spiked Rampion	131	2	345
Picris hieracioides	Hawkweed Picris	106	4	190
Pimpinella Saxifraga	Common Burnet-Saxifrage	86	5	29
magna	Greater Burnet-Saxifrage	86	6	30
Pulicaria dysenterica	Common Flea-bane	127	4	301
vulgaris	Small Flea-bane	127	5	302
Pyrola secunda	Serrated Winter-green	135	2	382
rotundifolia	Round-leaved Winter-green	135	3	382
media	Intermediate Winter-green	135	4	382
minor	Lesser Winter-green	135	5	383
Rubia peregrina	Wild Madder	99	1	144
Sambucus nigra	Common Elder	96	2	125
Ebulus	Dwarf Elder	96	1	131
Sanicula Europæa	Wood Sanicle	84	2	13
Saussurea alpina	Alpine Saussurea	114	6	227
Scabiosa succisa	Devil's-bit Scabious	105	1	173
columbaria	Small Scabious	105	2	174
Scandix Pecten	Common Shepherd's-Needle	92	3	76
Senecio vulgaris	Common Groundsel	124	3	290
viscosus	Stinking Groundsel	124	4	290
sylvaticus	Mountain Groundsel	124	5	291
squalidus	Inelegant Ragwort	125	1	291
tenuifolius	Hoary Ragwort	125	2	291
Jacobæa	Common Ragwort	125	3	292
aquaticus	Marsh Ragwort	125	4	292
paludosus	Great Fen Ragwort	125	5	293
Sarracenicus	Broad-leaved Ragwort	125	6	293
palustris	Marsh Fleawort	126	1	294
campestris	Field Fleawort	126	2	294
Serratula tinctoria	Common Saw-wort	114	5	226
Seseli Libanotis	Mountain Meadow-Saxifrage	89	3	46
Sherardia arvensis	Blue Sherardia	101	3	156
Silaus pratensis	Meadow Pepper-Saxifrage	89	5	48
Sison Amomum	Bastard Stone-Parsley	85	6	26
Sium latifolium	Broad-leaved Water-Parsnep	87	1	31
angustifolium	Narrow-leaved Water-Parsnep	87	2	31
Smyrnium Olusatrum	Common Alexanders	92	2	72
Solidago Virgaurea	Common Golden-Rod	124	2	288
Sonchus palustris	Tall Marsh Sow-thistle	109	2	200
arvensis	Corn Sow-thistle	109	3	200
oleraceus	Common Annual Sow-thistle	109	4	201
asper	Sharp-fringed Annual Sow-thistle	109	5	203
Tanacetum vulgare	Common Tansy	119	4	260
Thrincia hirta	Hairy Thrincia	107	3	192
Tordylium officinale	Small Hartwort	91	2	65
maximum	Great Hartwort	91	3	66

		Plate	Fig.	Page
Torilis Anthriscus	Upright Hedge-Parsley	94	4	88
infesta	Spreading Hedge-Parsley.	94	5	88
nodosa	Knotted Hedge-Parsley	94	6	88
Tragopogon pratensis	Yellow Goat's-Beard	106	1	187
porrifolius	Purple Goat's-Beard	106	2	189
Trinia vulgaris	Common Honewort	85	3	24
Tussilago Farfara	Common Coltsfoot	123	2	282
Vaccinium Myrtillus	Bilberry, or Whortleberry	132	1	351
uliginosum	Bog Whortleberry.	132	2	353
Vitis Idæa	Red Whortleberry, or Cowberry	132	3	354
Oxycoccos	Cranberry	132	4	355
Valeriana dioica	Small Marsh Valerian	102	2	162
officinalis	Great Wild Valerian	102	3	162
Pyrenaica	Heart-leaved Valerian	102	4	165
Viburnum Lantana	Mealy Guelder-Rose	97	1	132
Opulus	Common Guelder-Rose	97	2	134
Vinca minor.	Lesser Periwinkle.	136	4	407
major	Greater Periwinkle	136	5	407
Viscum album	Common Mistletoe	95	5	113
Xanthium strumarium	Broad-leaved Bur-weed	129	9	328

THE

FLOWERING PLANTS

OF

GREAT BRITAIN.

Order XXXVIII. UMBELLIFERÆ.—THE UMBELLIFEROUS TRIBE.

Calyx superior, 5-toothed, often reduced to a mere margin; *petals* 5, sometimes of very unequal size, the outer being the largest; *stamens* 5, alternate with the petals, curved inwards when in bud; *ovary* inferior, 2-celled, crowned by a fleshy disk, which bears the pistils and stamens; *styles* 2; *stigmas* small; *fruit* composed of 2 carpels, or seed-vessels, which adhere by their faces to a central stalk, from which they separate below when matured, and are attached by the upper extremity only. These carpels, or seed-vessels, are what are inaccurately termed, by persons unacquainted with Botany, the seeds. They are variously shaped, and each carpel is marked by five vertical ridges, with four intermediate ones; these ridges,

which are in some cases very apparent, can in others hardly be traced. They are separated by channels, beneath which are placed minute slender brown lines embedded in the skin of the seeds. These are termed *vittæ*. When highly magnified, they are found to be bags filled with oil, and it is the substance contained in these cells which gives the pungency to the caraways, coriander, or other strongly flavoured Umbelliferous seeds. If the carpel is cut across when ripe, the ends of these stripes, or vittæ, may often be seen by the aid of the microscope, looking like little openings, through which a dark oily matter is slightly oozing. Each carpel has a single seed, attached by its upper extremity, and containing a horny albumen, that is, the white farinaceous substance which constitutes the chief bulk of some seeds.

The flowers of the Umbelliferous tribe are usually small, and on short stalks, all proceeding from one point, like the rays of an umbrella. Each little cluster is called an umbel. When several of these are arranged around the top of a common stalk they form a compound umbel, the larger being called a general, the smaller a partial umbel.

This large and important Order is one in which there is much general resemblance in the species. It is easy enough to associate them into one large tribe, for even an unpractised botanist easily recognises a plant as umbelliferous by its most obvious features and mode of growth. This general similarity, however, renders the division into genera and species very difficult, as the special distinctions are much less marked than those

of other flowering plants. These distinctions are not only few in number, but their investigation requires patient and careful attention. Not only the flowers, leaves, and stems must be looked at, but the fruits, seeds, vittæ, the albumen, the faces of the halves of the fruit where they touch each other (the commissure), all form important distinctions, which must be studied by those who would fully understand this Order.

The British Umbelliferæ are all herbaceous plants, and until recently were not known to include a shrub or tree; but a shrubby plant of this Order is now introduced into our gardens, called the Black Parsley. The species are natives chiefly of the northern parts of the northern hemisphere, occurring in groves, thickets, plains, marshes, meadows, and waste places. Their foliage is in general of an unwholesome character, and is very often highly poisonous, as in the Hemlock and Dropwort. Notwithstanding this, the roots and stems of many, and the leaves of a few, are useful as food. Such are the roots of the Carrot and Parsnep, the leaves of Parsley, and the stems of Celery. The fruits are never noxious, and often furnish an agreeable aromatic, as the Coriander and Caraway. A stimulant gum resin exists in the stem of several species, which, as in the Asafœtida plant, is a valuable medicine. Several even of those umbelliferous plants which are poisonous afford valuable remedies to the skilful practitioner. Besides these uses of the tribe, it contributes materially, especially in early spring, to the beauty of our native vegetation. The finely divided elegant foliage is at this season of a most tender green hue, and even the

small flowers lend a charm to the hedges and meadows where they are so numerous. The clusters or umbels of blossoms are usually surrounded by a green involucre, and the petals are pink, yellow, green, or white, or rarely blue. Our wild species are mostly white. More than fifteen hundred species are enumerated as belonging to this extensive family.

* *Umbels simple or imperfect; albumen not furrowed in front; fruit without vittæ.*

1. Hydrocótyle (White Rot).—*Fruit* of two flat nearly round carpels, each with five slender ridges; *calyx-teeth* obsolete; *petals* egg-shaped, entire, acute. Name from the Greek, *hydor*, water, and *cótyle*, a platter, from the place of growth, and form of the leaves.

2. Sanícula (Sanicle).—*Flowers* in panicled tufts, the outer without stamens, the inner without pistils; *fruit* egg-shaped, thickly covered with hooked prickles; *petals* inversely egg-shaped. Name from the Latin, *sano*, to heal, from the supposed virtues of the plant.

3. Erýngium (Eryngo).—*Flowers* in a dense prickly head; *fruit* egg-shaped, covered with chaffy scales. Name from the *eryngion* of Dioscorides.

* * *Umbels usually compound; fruit of two flattened lobes, not prickly nor beaked; with or without vittæ; albumen solid.*

4. Cicúta (Water Hemlock).—*Fruit* of two almost globose carpels, with five broad flattened ridges; general *involucre* of very narrow leaves, often wanting; partial

involucre of many leaves. Name from the Latin, *cicuta*, a hemlock stalk.

5. Ápium (Celery).—*Fruit* roundish, egg-shaped, of two almost distinct carpels, with five slender ridges; *involucre* none. Name from the Latin of this or some allied plant.

6. Petroselínum (Parsley).—*Fruit* egg-shaped; *carpels* each with five slender ridges; general *involucre* of few, partial of many, leaves. Name from the Greek, *petros*, a rock, and *selinon*, parsley.

7. Trínia (Honewort).—*Fruit* egg-shaped; *carpels* with five prominent ribs; *flowers* having stamens and pistils on different plants. Named from Dr. Trinius, a Russian botanist.

8. Helosciádium (Marsh-wort).—*Fruit* egg-shaped, or oblong; *carpels* each with five slender prominent ridges; general *involucre* none, partial of many leaves. Name from the Greek, *helos*, a marsh, and *skiadion*, an umbel.

9. Síson (Stone Parsley).—*Fruit* egg-shaped; *carpels* with five slender ridges; *petals* broad, deeply notched, with an inflexed point; *involucres* of many leaves.

10. Ægopódium (Gout-weed).—*Fruit* oblong; *carpels* with five slender ridges; *involucre* none. Name in Greek, signifying goat's-foot, from some fancied similarity of the leaves.

11. Cárum (Caraway).—*Fruit* oblong; *carpels* of five slender ridges; general *involucre* none, or rarely of one leaf, partial none. Name from Caria, a country of Asia Minor.

12. Búnium (Earth-nut).—*Fruit* oblong, crowned

with the conical base of the erect styles; *carpels* with five slender blunt ridges; general *involucre* none, partial of few leaves. Name from the Greek, *bounos*, a hill, from its chief place of growth.

13. Pimpinélla (Burnet Saxifrage).—*Fruit* oblong, crowned with the swollen base of the reflexed styles; *carpels* with five slender ridges, and furrows between; general *involucre* wanting, or rarely of one leaf; partial *involucre* none. Name of doubtful origin.

14. Síum (Water Parsnep).—*Fruit* nearly globose; *carpels* with five slender blunt ridges; *involucres* of several leaves. Name from the Celtic, *Siw*, water.

15. Bupleúrum (Hare's Ear).—*Fruit* oblong, crowned with the flat base of the styles; *carpels* with five prominent ridges; partial *involucre* very large. Name from the Greek, *bous*, an ox, and *pleuron*, a rib, from the ribbed leaves of some of the species.

* * * *Umbels compound; fruit not prickly, nor beaked, nor flattened; vittæ between the ribs.*

16. Œnánthe (Water Dropwort).—*Fruit* egg-shaped. cylindrical, crowned with the long straight styles; *carpels* with five blunt corky ridges; *flowers* somewhat rayed, those of the centre only being fertile. Name from the Greek, *oinos*, wine, and *anthos*, a flower, from the scent of the blossom.

17. Œthúsa (Fool's Parsley).—*Fruit* nearly globose; *carpels* with five thick-keeled ridges, and crowned with the reflexed styles; partial *involucre* of three leaves, all

on one side, usually drooping. Name from the Greek, *aitho*, to burn, from its acridity.

18. Fœnículum (Fennel).—*Fruit* oblong; *carpels* with five bluntly-keeled ridges; *involucre* none. Name from the Latin, *fœnum*, hay, from its odour.

19. Séseli (Meadow Saxifrage).—*Fruit* oval or oblong, crowned with the reflexed styles; *carpels* with five prominent blunt ribs; partial *involucre* of many leaves. Name given by the Greeks to some allied plant.

20. Ligústicum (Lovage).—*Fruit* elliptical; *carpels* with five sharp, somewhat winged ridges; *involucres*, both general and partial, of several leaves. Name from Liguria, where the cultivated species abounds.

21. Siláus (Pepper Saxifrage).—*Fruit* oval; *carpels* with five sharp, somewhat winged ribs; *petals* scarcely notched; general *involucre* of one or two leaves, partial of several. Name of doubtful origin.

22. Méum (Spignel).—*Fruit* elliptical; *carpels* with five sharp winged ridges; *petals* tapering at both ends; general *involucre* of few, partial of many leaves. Name given by the Greeks to this or some similar plant.

23. Crithmum (Samphire).—*Fruit* elliptical; *carpels* spongy, with five sharp winged ridges; *leaves* of both general and partial *involucres* numerous. Name from the Greek, *crithé*, barley, which grain the seed was thought to resemble.

* * * * *Umbels compound; fruit of two flattened carpels, which are united by their faces, not prickly nor beaked; with or without vittæ.*

24. Angélica.—*Fruit* with three sharp ridges at the back of each carpel, and two at the sides, expanding into an even border; general *involucre* of few, partial of many leaves. Named angelic, from its medicinal qualities.

25. Peucédanum (Hog's Fennel).—*Fruit* flat, with broad border; *carpels* with three elevated ribs on the back, and two side ones spreading into broad wings; partial *involucre* of many leaves. Name from *peuce*, a pine-tree, and *dono*, a gift, on account of the resin which exudes from some of the species.

26. Pastináca (Parsnep).—*Fruit* very flat, with a broad border; *carpels* with three slender ridges on the back, and two near the outer edge of the margin; general and partial *involucre* usually of one leaf. Name from *pastus*, pasture.

27. Heráckeum (Cow Parsnep).—*Fruit* very flat, with a broad border; *carpels* with three ribs on the back, and two distant marginal ones; general *involucre* falling early, partial of many leaves. Named from Hercules, who is said to have used this or some similar plant medicinally.

28. Tordýlium (Hart-wort).—*Fruit* flat, with a broad thick border, either waved or notched; *carpels* with three faintly marked ribs, and two distant marginal ones. Name given by the Greeks, and thought to signify "lathe" and "turn," because the seeds look as if turned in a lathe.

* * * * * *Umbels compound; fruit globose, not prickly; carpels scarcely separating, scarcely ribbed, and without vittæ; albumen solid.*

29. Coriándrum (Coriander).—*Fruit* globose; *carpels* cohering; general *involucre* none; partial, on one side. Named from *koris*, a bug, from the unpleasant odour.

* * * * * * *Umbels compound, fruit short and thick, not prickly nor beaked, somewhat flattened, with or without vittæ, albumen furrowed.*

30. Conium (Hemlock).—*Fruit* broadly egg-shaped; *carpels* with five prominent waved ridges; general *involucre* of few leaves, partial of three leaves on one side. Name, the Greek word for the plant.

31. Physospérmum (Bladder-seed).—*Fruit* of two globose kidney-shaped *carpels*, with five slender ridges; *involucres* both general and partial, of 1—5 leaves. Name from the Greek *physa*, a bladder, and *sperma*, a seed.

32. Smýrnium (Alexanders).—*Fruit* of two kidney-shaped *carpels*, each having five prominent ridges. Name from the Greek *smyrna*, myrrh, from the scent of some of the species.

* * * * * * * *Umbels compound; fruit oblong; usually more or less beaked; with or without vittæ.*

33. Scándix (Shepherd's-needle).—*Fruit* contracted at the sides, with a very long beak; *carpels* with five

blunt ridges; general *involucre* none, or of one leaf; partial of several leaves, longer than the flowers. Name, the Greek name of the plant.

34. Anthríscus (Beaked-Parsley).—*Fruit* narrowed below the short beak; *carpels* without ridges; *beak* with five ridges; general *involucre* none; partial of several leaves. Name, the Greek name for this or some allied plant.

35. Chærophýllum (Chervil).—*Fruit* contracted at the sides, with a short beak; *carpels* with five blunt ridges; partial *involucre* of several leaves. Name, in Greek, signifying a pleasant leaf, from the perfume of some species.

36. Myrrhis (Cicely).—*Fruit* contracted at the sides, with a deep furrow between the carpels; *carpels* with five sharply keeled ridges; general *involucre* wanting, partial of many leaves. Name from the Greek *myrrha*, on account of its fragrance.

* * * * * * * * *Fruit not beaked, clothed with prickles, or with a prickly involucre, vittæ two or more together.*

37. Daúcus (Carrot).—*Fruit* slightly flattened; *carpels* united by their faces oblong, with bristly primary ridges, secondary ridges equal, winged with a close row of spines; general *involucre* very long, often pinnatifid. Name, the Greek name of the plant.

38. Caúcalis (Bur Parsley).—*Fruit* slightly flattened; *carpels* united by thin narrow edges, ridges bristly, with 1—3 rows of hooked prickles between. Name, the Greek name of the plant.

39. Torílis (Hedge Parsley).—*Fruit* slightly contracted at the sides; ridges of the *carpels* bristly, with numerous prickles; general *involucre* wanting; partial of many leaves. Name of doubtful origin.

40. Echinóphora (Prickly Samphire).—*Fruit* egg-shaped in a prickly receptacle, and with a prickly *involucre; carpels* with five ribs. Name from the Greek *echinos*, a hedgehog, and *phero*, to bear, from the prickly nature of the fruit.

* *Umbels simple or irregular.*

1. Hydrocótyle (White-rot).

1. *H. vulgáris* (Common White-rot).—*Leaves* circular, stalked, somewhat lobed and crenated; heads of about five *flowers;* root perennial. The large leaves of this plant are often to be seen lying on their creeping stems, in the water, or covering large spots on the surface of the mossy bog. They are bright green, smooth and glossy; and sometimes an inch and a half across. This plant flowers in May and June, but the blossoms are so small that it is better known by its leaves than by the reddish white petals of the little corollas. Sometimes the cluster consists of but two or three flowers, and indeed they are not sufficiently numerous at any time to suggest the idea of an umbel. The plants in this first division of the umbelliferous plants, comprehending this and the two following genera, are very unlike, in their general appearance, all those which follow. They are scarcely umbelliferous, though being nearly allied in many

respects to plants of that character, they are classed with them.

The Common White-rot was in former days considered very prejudicial to sheep, and several of the names by which it is known in country places convey this opinion. It is called Sheep-Killing Penny-grass, Sheep's Bane, Marsh Penny-wort, and Flowk-wort. Sheep are now well known to leave it untouched, but as the fluke insect (*Fasciola hepatica*), often so injurious to these animals, is found on marshy lands, where this and some other acrid plants abound, the malady was erroneously ascribed to the vegetation. The French call the White-rot, *Hydrocotylé*, the Germans *Wassernahel*, and the Spaniards term it *Sombrera de aqua*, probably from the form of its leaves, which is something like that of the *Sombreras* which they wear on their heads to shade them from the sun. To its round leaf, slightly depressed in the centre, the plant owes its old name of Water-can. An eastern species, *H. Asiática*, is commonly used in India as a culinary vegetable, as well as a medicine; and the juice of *H. umbellâta* is also administered in small doses. The flavour is said to be agreeable, and the odour aromatic. Lamarck describes a species of White-rot, called the Gum-bearer, now termed *Bolax glebaria*. A quantity of semi-transparent gum oozes from its stem, like that produced by some fruit-trees.

2. Sanícula (Sanicle).

S. Europæa (Wood Sanicle).—*Leaves* mostly from the root, palmate, with the lobes three-cleft and cut;

fertile flowers sessile; *root* perennial. The flowers of this plant form rather a panicle than an umbel, not having that regular arrangement around the top of the stem which is one of the usual characteristics of the umbelliferous tribe; and some of the flower-stalks are long, and others short. The stem is about a foot, or a foot and a half high, and the large leaves of deep dull green. Nor is there any brightness of hue on any part of the plant, though its form is exceedingly elegant. It is frequent in woods, especially near streams, or in very moist places; and is in flower during May and June. The blossoms are small, of dull white when expanded, but while young, tinted more or less with chocolate colour or pink. Its name, *Sanicula*, significant of its healing virtues, has its synonym in most of the countries of Europe, and may indicate that the old English proverb, "He that hath Sanicle, needeth no surgeon," would have found as ready a credence in other countries as in ours. Gerarde says of it, "It is used in potions which are called vulnerarie potions, or wound drinks, which make whole and sound all inward wounds and outward hurts." There is some slight bitterness and astringency in the leaves, as well as some degree of acridity; and it is probable that its application to wounds would do more harm than good. Sir J. E. Smith says that it partakes of that virose acrimony which is found in most umbelliferous plants growing on moist fat soils. Its dull appearance would indicate a probability of its unwholesome nature; and its flavour is not only disagreeable, but leaves a burning sensation on the tongue. The French call this plant, *La Sanicle*,

and the Germans *Der Sanikel.* It is the *Sanicola* of the Italians, and the *Sanikel* of the Dutch.

3. Erýngium (Eryngo).

1. *E. marítimum* (Sea Eryngo, or Sea Holly).—*Root-leaves* roundish, plaited, spiny, stalked, upper ones palmate, lobed, clasping the stalk; *leaves* of the *involucre* 3-lobed; *scales* of the receptacle 3-cleft; *root* perennial. This plant is well called Sea Holly. No one could look at its thick, rigid, spiny leaves without thinking of those of our well-known evergreen. Their colour, however, is very different; for it is not dark and glossy, but of sea-green glaucous hue, beautifully veined with white. The flowers look something like thistles; and it is well described by the poet—

> "Eryngo, to the threat'ning storm,
> With dauntless pride uprears
> His azure crest and warrior form,
> And points his spears."

The small blue blossoms grow in a dense head, on a scaly receptacle. They are produced in July and August. The stem is about two feet high, and the seeds are aromatic.

This handsome plant is not unfrequent on the sandy shores of England; and is often sold among the shells and other marine curiosities brought by boys to the beach. It is by no means a fragile flower, and preserves its form and appearance so well throughout the winter, that a good bouquet for that season may be made of this plant, mingled with Carline thistles, Sea Lavender,

and sea-side grasses. It is very tough in texture, and difficult to gather; and the large, fleshy, somewhat bitter roots penetrate the sand to some depth. These roots were formerly much prized as a sweetmeat, and believed to have very tonic properties. The oldest writers on plants, like Dioscorides, praised their restorative virtues; and in Queen Elizabeth's time, when prepared with sugar, they were called Kissing Comfits. Shakespere represents Falstaff as referring to them by this name. Boerhaave considered them highly tonic, and they are still prized by the Arabs. The candied roots were introduced into general use by Robert Buxton, an apothecary; and the town of Colchester was long famous for this sweetmeat. Even as lately as the year 1836, an immense quantity was sold, in consequence of the inhabitants of that town having presented a box of the Eryngo roots to one of the Royal family who passed through the place. The root is little used now, but is still recommended in some cases, by respectable authorities, as a good medicine.

The young tops of the Sea Holly are eaten in Sweden, like asparagus; and Belon says in his "Singularities," that the people of Crete eat them as food. In the United States, the roots of an aquatic species, *E. aquáticum*, are very much used medicinally; and those of *E. fœtidum*, are in Jamaica esteemed a febrifuge. Our sea-side species is not common on the shores of Scotland generally, though more frequent on the Western coast. It is a common plant on the shores of several European countries; and is called in France, *Panicaut;* in Germany, *Krausdistel;* and in Holland, *Kruisdistel.*

It is the *Eringio* of the Italians, and the *Cardo corredor* of the Spaniards.

2. *E. campéstre* (Field-Eryngo).—*Root-leaves* somewhat ternate, lobes pinnatifid; *stem-leaves* clasping, twice pinnatifid, all with spiny teeth; *leaves of the involucre* spinous; *scales* of the receptacle entire. Plant perennial. This rare species much resembles the Sea Holly, but is more bushy, taller, and more slender. It formerly grew in sandy fields at Stonehouse, in Devonshire; but is now extinct there, as it also is on a spot near Daventry, where it formerly grew. The petals are purplish, or white, and may be seen on the chaffy receptacle in July and August. Its roots, when dried and powdered, are said to form the chief ingredient of a medicine celebrated in Spain as a remedy against the bites of serpents. Gerarde said of our sea-side species, that it was "good for such as were bitten by any venomous animal."

* * *Umbels compound; fruit of two flattened lobes, neither prickly nor beaked.*

4. Cicúta (Water Hemlock).

1. *C. virósa* (Cowbane, or Water-Hemlock).—*Stem* hollow, branched; *lower leaves* on long stalks, pinnate; upper ones twice ternate; *umbels* stalked. Plant perennial. Like many of our umbelliferous plants which grow in the water, this herb is highly poisonous, and various instances of its fatal effects are on record. Some animals, as sheep, goats, and horses, eat it with impunity, but to cows it proves very deleterious. Cattle are

usually guided by their instincts to the selection of plants which afford them wholesome and nutritious food; and when this Water-Hemlock is fully developed, and has its strong and peculiar odour, they will not touch it. In the early spring, however, the scent is faint, and kine will sometimes eat it among the green herbage of the pasture, and suffer much from doing so. In the moist meadows of Sweden, where it is abundant, the horned cattle were subject every spring to a sickness and mortality, of which the cause was long unknown. Linnæus, with his usual sagacity, detected it, and recommended the owners of these animals to keep them on the upland pastures during the spring, bringing them, when the Cowbane was fully matured, into the lowland meadows. The advice was taken, and a great annual loss to the grazier thus prevented by the science and observation of the botanist. The Spotted Cowbane of North America, (*C. maculatá,*) is said to possess the medicinal properties of Hemlock, and is used in that country for the same purposes. The French call the Water-Hemlock, *La Cicutaire;* the Germans, *Die Wütherick.* It is termed in Holland *Water Scheerling.*

5. Apium (Celery).

1. *A. gravéolens* (Smallage, or Wild Celery).—*Stem* furrowed and branched; *leaves* shining, pinnate or ternate, lower leaves on long stalks; *flowers* in terminal or axillary umbels. Plant biennial. Difficult of determination, as plants of the Umbelliferous tribe usually are, the Wild Celery is immediately recognised, whether in

its fresh or dried state, by its strong odour, so exactly resembling that of the well-known garden vegetable. It is the origin of that useful edible plant, but when growing wild, is not only acrid and disagreeable, but is believed to be, if near fresh waters, highly deleterious. Climate and soil, however, often affect the wholesomeness of plants, and Wild Celery is eaten in some countries. In the recent melancholy adventures of the missionaries, who with Captain Gardiner perished from want at Terra del Fuego, the generous men who risked their lives that they might carry Truth to the natives, were glad to feed on the Wild Celery which they found, and which the surgeon who accompanied the expedition did not seem to find unwholesome. Our Wild Celery grows commonly about the ditches or rivers, or moist marshy lands, of England, especially near the sea. The stem is usually one or two feet high, and the clusters of small white flowers are in blossom from June to September. The umbels are often sessile; the glossy leaves are of bright green.

The Garden Celery is rendered wholesome by blanching. This must be done by shielding the plant from light. The office of the leaves of plants is to expose the sap which they derive from the stem, to the light and air, and these render them of green colour. The necessity of light and air in colouring plants is apparent from the circumstance that plants turn towards the sun, seeking light, as well as from the fact, which every observing person must have noticed, that leaves which grow in comparative darkness are of paler green. It is thus that we see the green tree in some crowded court of London,

looking paler than its compeer in the country would do; and thus, that when some stray branch of ivy finds its way into the tower or belfry, and grows there, it is less green and glossy than the verdant ivy which encircles the outer wall. Professor Lindley, in that admirable work of his called "Ladies' Botany," explains the effect of blanching so well, that we cannot do better than present his words to our readers. "If," he says, "you cause a plant, or any part of a plant, to grow in total darkness, it will be entirely destitute of greenness; or, in other words, the substance of the plant will remain of its original yellowish white, because no green matter can be formed but by the action of light: and if a part already green is kept for a long time in darkness it will become yellowish white, in consequence of all its green being destroyed by the peculiar action of the atmosphere upon plants in darkness. This is the explanation of blanching. But mere loss of colour is not the only consequence of plants being kept in the dark. Poisons, when it is the nature of the plant to yield poisons, are all formed in leaves by the action of light; the absence of this wonderful agent will therefore prevent the formation of poisons, as well as the formation of green colour; and hence blanching renders poisonous plants harmless. Thus in the Celery, but a small portion only of the leaves is exposed to the light; the whole of the stem and of the lower part of the leaves is buried in the earth: the small quantity of noxious matter that might be formed by the few leaves which are allowed to bask in the sun, has to pass down the buried stalks of the leaves before it can reach

the stem, where it would be laid up; but the leaf-stalk of the Celery is very long, and anything which has to filter from the upper part of such a leaf to its bottom, has to take a long journey, in the course of which it is constantly under the destroying influence of darkness; so that before it can reach the stem it will all have perished."

The cultivated Celery often attains a very large size; and a head of this plant, which was reared in the neighbourhood of Manchester, is stated to have weighed nine pounds, inclusive of the roots and leaves, and to have measured four feet and a half in height. There are several varieties in the kitchen-garden, as the red and white upright kinds, and the more hardy turnip-rooted Celery, or *Celeriac*, of which the root is the only edible part. It is much prized in Germany, either as a boiled vegetable, or sliced and eaten cold with vinegar, when it makes an excellent salad. Though rarely cultivated in this country, it is imported occasionally from Hamburgh.

The blanched footstalks of the leaves are the portions of the Celery usually seen at our tables; but the Italians use the unblanched leaves in soups; and the seed is so strongly flavoured, that it is sometimes substituted in cooking for the succulent stalks.

6. Petroselínum (Parsley).

1. *P. satívum* (Common Parsley).—*Leaves* thrice 3-pinnate, shining; lower *leaflets* egg-shaped, somewhat wedge-shaped, 3-cleft, and toothed; upper ones lan-

ceolate, nearly entire; partial *involucre* thread-like. Plant biennial. This well-known garden herb is not truly wild, but is naturalized on rocks and old walls, in many parts of the kingdom, especially in the south-west of England. Besides being used as a seasoning plant, it is often sown among pasture grasses, to prevent maladies incidental to sheep. Some years since it was extensively planted in fields in Hampshire, for this purpose, with success; and Mortimer, in his work on Husbandry, mentions the cultivation of this plant in Buckinghamshire, as a preventive to disease in these animals. It is said, when eaten by sheep, to impart an agreeable flavour to their flesh. Hares and rabbits are very fond of its foliage, and will be attracted from a great distance by a large quantity of Parsley. In places where they are numerous it is almost impossible to preserve the herb from their depredations. In our country the different varieties of Parsley are used very generally for flavouring dishes, and it has been suggested that the curled variety only should be sown in gardens, because the ordinary form of the plant is so similar to that dangerous weed, the Fool's Parsley (*Æthúsa Cynápium*), that mistakes have been made between the two plants, and melancholy consequences have ensued. This noxious plant often infests gardens, and, when growing with the cultivated herb, a careless person might gather the one for the other. The leaves, however, are differently formed, and of darker, duller green hue; and if bruised they emit an odour very different from that of the Parsley. When in flower the plants are easily distinguished, the Fool's Parsley having an

involucre of three long, narrow, sharp-pointed leaflets, hanging down on one side, under each partial umbel; while in the Common Parsley, there is usually only one leaflet in the general umbel, and in the partial umbel the few leaflets are as fine as hairs. Professor Burnett remarks, "Parsley affords one, among many proofs, of the impossibility of dividing esculent from poisonous plants, for although eatable and innocuous to man, it is said to be a deadly poison to parrots."

The old herbalists regarded this plant as a valuable remedy against several diseases, and said that its seed was "effectual against the venom of any poisonous creature, and the danger that cometh to them that have the lethargy." The time of its introduction into England is uncertain. It has been said to have been brought into this country about the middle of the sixteenth century, from Sardinia, where it is wild. It received from Dioscorides its name of *Petroselinum*, and the plant was given to him who overcame in the Grecian Games. "Sometimes," says an old writer, "Victours had garlondes of it, as Isodore saith Hercules made him fyrste garlondes of this hearbe." Another old author speaks of one in his day, who "would in a braverie wear Parsley in his hat." The French call the plant *Le Persil;* it is *Die Petersille* of the Germans; and the *Petroselino* of the Italians.

An anecdote related some years since in the *Foreign Review*, shows a use for which parsley-seed was employed during the middle ages. It was customary in those times to flavour cheese with various herbs, as thyme and fennel. It is said of Charlemagne, that

travelling once without any retinue, he arrived at a Bishop's palace on a fast day. The Bishop had no fare fitted to regale a monarch, but placed before him some bread and some choice cheese. The King did not appear to relish the appearance of the cheese, and from time to time picked out, with his knife, several small specks which he supposed to be defects in the food, but which were in fact the seeds of Parsley, which had been placed in the cheese to give it flavour. The Bishop ventured to hint to the King that he was depriving the cheese of its greatest excellence. On this the monarch ate it freely, and liked it so well that he ended by asking the prelate to send him annually a supply of the curd so flavoured; and lest the merchants should accidentally pack cheeses which were without the parsley-seeds, he directed that the cheeses should always be cut in two pieces, in order that the seeds might be seen, while the halves were afterwards to be fastened together with a skewer.

2. *P. segetum* (Corn Parsley).—Lower *leaves* pinnate; *leaflets* nearly sessile, egg-shaped, lobed, and serrated; upper leaves entire or 3-cleft; *umbels* very irregular; *fruit* strongly ribbed. Plant biennial. This is the truly Wild Parsley, which is easily distinguished by its slender, branched, tough, and wiry stem, which is about one or two feet high, and by its small pinnated leaves. In August and September it has umbels of little whitish flowers, the rays of the umbel being few and unequal in length. The few small stem-leaves are all that are to be seen in Autumn, as those of the root soon wither away. The schoolboy gathers this, with various other

somewhat similar plants, all of which he calls Wild Parsley, for the food of his tame rabbits; but its scanty foliage does not furnish a large supply.

7. Trínia (Honewort).

1. *T. vulgáris* (Common Honewort).—*Leaves* thrice pinnate and shining; *leaflets* very narrow, often thread-like; *involucre* none, or of one leaf; *ribs of the fruit* blunt; *root* perennial. This is a rare plant, inhabiting dry limestone hills, and is found on St. Vincent's Rocks, near Bristol, and a few other spots in this kingdom. The white flowers appear in May and June, and have their stamens and pistils in different blossoms, and on separate plants. The stem is branched and erect, about six or eight inches high; the root is spindle-shaped, and crowned with the remnants of former leaves. The herbage is glaucous green.

8. Heliosciádium (Marshwort).

1. *A. nodiflórum* (Procumbent Marshwort).—*Stem* procumbent at the base and rooting; *leaves* pinnate; *leaflets* egg-shaped, unequally and bluntly serrated; *umbels* opposite to the leaves. Plant perennial. Varieties occur of this herb, in one of which the umbels are longer than the flower-stalks, or nearly sessile, and the leaflets bluntly serrate; and in the other, the umbels are shorter than the flower-stalks, the leaflets smaller, and more sharply serrated. The streams and rivulets which wander through our green meadows or woods, or

lie beneath the shadowing hedgerows, have usually a wealth of vegetation all their own. This is a plant which he who well knows these spots always expects to find there; its branches overtopping the plants which lie on the flat surface of the shallow waters, or growing on the moist soil of their margin. Country people call it Fool's Water-cress, and doubtless it may be sometimes gathered carelessly instead of that wholesome salad herb; for although when in flower it is quite unlike the Water-cress, yet when out of bloom it has some slight resemblance to it. Its pointed and serrated leaves are a good distinction; and it has its distinct features in the umbelliferous growth of its flowers, its hollow stem, and its leaf-stalk sheathing around. These latter distinctions never characterise cruciferous plants. The flowers are small and white, appearing in July and August; and the stem is sometimes two feet long. Though generally regarded as a plant containing poisonous properties, yet it was recommended by Dr. Withering to be taken, either alone or with milk, as an alterative medicine. The French call the plant *Berle;* the Germans, *Wassermeek;* the Dutch, *Watereppe;* the Italians, *Sio.*

2. *H. inundátum* (Least Marshwort).—*Stem* creeping; lower *leaves* finely divided into hair-like segments; upper ones pinnatifid. Root perennial. This plant, which occurs in ponds that are left dry during summer, has stems but a few inches long, and umbels with only two rays of very small white flowers, which are produced in June and July. These and the upper leaves are the only parts of the plant seen above the shallow waters.

9. Síson (Bastard Stone-Parsley).

1. *S. Amómum* (Hedge Bastard Stone-Parsley.)—*Stem* erect; lower *leaves* pinnate; *leaflets* oblong, cut, and serrated; upper *leaflets* cut into narrow segments. This Parsley, though rare in Scotland, is found not unfrequently in England, on damp chalky places, on borders of woods, or under hedges. The little cream-coloured flowers expand in August. The umbels of flowers are very small. The whole plant has a very offensive odour, especially if bruised. The fruit, which is egg-shaped, is pungent and aromatic. This plant is the *Berle aromatique* of the French; the Germans call it *Amomlein*.

10. Ægopódium (Gout-weed).

1. *Æ. Podagrária* (Common Gout-weed, or Bishop's-weed).—*Stem* erect, furrowed; *leaves* two or three times ternate; *leaflets* egg-shaped, pointed, and acutely serrated, unequal at the base. Plant perennial. The gardener who has shady or damp places in his garden, is often much troubled with this plant; for its creeping root will take such hold of the soil, that it is very difficult of eradication. It has large dark-green leaves and white flowers, and soon grows, if left untouched, to a foot or a foot and a half high. It is common in damp spots throughout the country; and though a disagreeable weed, it was doubtless introduced by the monks, and had an old repute as a cure for gout, for which malady the German physicians are said still to prescribe it. The creeping root is pungent and aromatic, with some

1
2
3
4
5
6
1
2
3
4
5
6
2

acrimony, and this is the portion of the plant employed. Culpepper says, "Neither is it to be supposed Gout-weed hath its name for nothing; but upon experiment it will be found to heal the gout and sciatica, as also joint-aches and other cold griefs. The very bearing of it about one easeth the pain of the gout, and defends him that bears it from the disease." The plant also was called Herb Gerrard and Asheweed.

11. Cárum (Caraway).

1. *C. Cárui* (Common Caraway).—Partial *involucre* none; general none, or one-leaved; *leaves* twice pinnate; *leaflets* cut into slender segments. Plant biennial. This is a rare plant in our meadows and pastures; nor is it truly indigenous, though found in various parts of England and Scotland. The flowers, which are white, grow in rather large umbels, on a stem one or two feet high, in June. The aromatic carpels, known by the name of Caraway-seeds, are too often used in cookery, confectionery, liqueurs, and medicines, to need any description, and the plant is often cultivated on their account. The slightly pungent leaves are sometimes used as ingredients in salads, or, like those of parsley, for seasoning dishes; and the root, which is spindle-shaped, is sometimes eaten like the parsnep, but it partakes slightly of the peculiar flavour of the carpels, which would render it unpleasant to some palates, when eaten with cooked meat. According to the old writers, this root is "pleasant and comfortable, and helpeth digestion;" one of them says that the root, "eaten as men eat parsneps,

strengthens the stomachs of ancient people exceedingly, and they need not make a whole meal of them neither." He adds that the Caraway should be planted in every garden. The Caraway comfits were also considered, when eaten fasting, as an excellent stomachic, and were at least a more agreeable one than many others recommended by these "simplers." They were believed too to sharpen the eye-sight. The French call the Caraway plant, *Carvi;* the Germans term it, *Kümmel;* and the Italians *Carui.*

2. *C. Bulbocástanum* (Tuberous Caraway).—*Leaves* thrice pinnate, with very slender leaflets; general and partial *involucres* of many thread-like leaves; *root* tuberous and perennial. This is a rare plant in most parts of this kingdom, and is found chiefly in chalky fields of Hertfordshire and Cambridgeshire, though occurring on some of these in great abundance.

3. *C. verticillátum* (Whorled Caraway).—*Leaves* mostly from the root, pinnate, and cut into slender thread-like segments; *umbels* few, terminal; general and partial *involucres* very small. Root perennial. The foliage of this plant is not truly whorled, but the segments of the leaflets surround the leaf-stalk in a spreading direction, so as to look like a whorl. The slender stem is about a foot high; and the small white flowers appear in July and August. Though a rare plant in England, it is abundant on the hills in the west of Scotland. It is found also on the level parts of Wales, and about Killarney, in Ireland.

12. Búnium (Earth-nut).

1. *B. flexuósum* (Common Earth-nut).—*Leaves* of the stem few, nearly sessile, with linear segments; general *involucre* of 1—3 leaves, partial more numerous; both *involucres* sometimes wanting; *styles* erect. Plant perennial. This is a pretty and common plant, bearing its terminal umbels of white flowers in May and June. There is something elegant and graceful in its form, and the slight stem is a foot or more high, having a few leaves cut into slender segments. The tubers of the Earth-nut are sweet and esculent; they fatten pigs exceedingly, and being eagerly sought after and rooted up by these animals, the plant is in many country places called Pig-nut. A large amount of farinaceous and nutritive matter exists in these roots; and in time of famine they have been useful in furnishing food for man. Though we cannot praise their flavour very highly, yet they are much liked by country children, who eat them in their uncooked condition as they would a chestnut, which fruit they are not unlike in flavour. The Italians and Spaniards both call the plant *Castagno di terra;* and it is the *Terre noix* of the French, the *Erdness* of the Germans, and the *Ardnoot* of the Dutch. The old writers recommended the powdered root as a remedy for cough. They called the tubers Ground-nuts, and Cipper-nuts.

13. Pimpinélla (Burnet Saxifrage).

1. *P. Saxífraga* (Common Burnet Saxifrage).—*Root-leaves* pinnate; *leaflets* roundish, sharply serrate or cut;

stem-leaves twice pinnate, with linear segments. Plant perennial. The lower leaves of this herb are so like those of the common Burnet, as to deserve the allusion to that plant contained in its name; those of the root are on long stalks, and those of the stem are often very much divided. The stem is round, one or two feet high, the flower-stalks usually mooth, though occasionally downy. The small greenish-white flowers appear in July and August.

The Burnet Saxifrage is common on dry pastures, and is often to be seen among the turf of those rounded hills which so often occur in our chalk districts. It is remarkable for varying much in the shape of its foliage, owing to some circumstances of soil or season; hence the earlier botanists classed as distinct species forms now known to be mere varieties; and we had formerly *P. major*, *P. minor*, and *P. dissectum*. The root, which is of an astringent nature, is very pungent and even acrid in flavour. Country people consider it a cure for the tooth-ache; and a decoction of the plant has also been long in use as a cosmetic, and probably would not be altogether useless in the removal of freckles and sunburn. This root is much infested by a species of coccus, from which a red colouring matter may be procured. The French call the plant *La Boucage;* it is the *Pimpinella blanca* of the Spaniards, and is termed by the Germans *Kleine bibernel.*

2. *P. mágna* (Greater Burnet Saxifrage).—*Leaves* all pinnate; *leaflets* egg-shaped, serrate, somewhat cut, he terminal one 3-lobed; *fruit* smooth. Plant perennial. This species is much larger than the last, and has an

angled stem marked with lines. It occurs on chalky and limestone soils, but is not so frequent as the Common Burnet Saxifrage. Its white flowers appear in July and August.

The well-known anise used in medicine is often procured from a species of the Pimpinella, which is cultivated in Malta and Spain, whence the seeds are imported into this country. These are also used in flavouring liqueurs, and in some sorts of digestive bread, and various articles of confectionery; and the leaves are employed in garnishing dishes, and are put into soups and sauces.

14. Sium (Water Parsnep).

1. *S. latifólium* (Broad-leaved Water Parsnep).—*Stem* erect; *leaflets* unequally lobed, and serrated; *umbels* stalked, opposite to the leaves; *leaves of involucres* narrow, and pointed. Plant perennial. This is a large, stout, conspicuous plant, standing up three, four, or even five feet in height by the water's edge, its flat umbels of white flowers appearing in July and August. The stems are furrowed, and the pinnate leaves are large, and composed of from five to nine distant leaflets. It is not a very common plant in England, and is still less so in Scotland.

2. *S. angustifólium* (Narrow-leaved Water Parsnep). —*Leaves* pinnate; *leaflets* unequally cut, egg-shaped, the upper ones narrower; *umbels* opposite the leaves, stalked. Plant perennial. This species, though rare in Scotland, is not unfrequent in England. It is a much smaller plant than the last, and very much resembles

the Procumbent Marshwort. It may be distinguished from it by its stalked umbels, and by its having general and partial bracts.

Though our Water Parsnep is not fitted for food, yet a species of this genus furnished the Skirret of our ancestors. This is the *Sium Sisarum*, and it is still occasionally cultivated for its tubers, which are very wholesome when eaten boiled with butter. Our old gardeners and herbalists make much mention of the skirret; and many old poets, as Michael Drayton, have praised this root. It once found a place in all the best kitchen gardens, but it is now rarely found in England except in cottage gardens; though the Scottish peasant still cultivates it under the name of Crummack. This skirret is so full of saccharine matter, that a chemist extracted from half a pound of the roots one ounce and a half of pure sugar.

This plant is indigenous to China, but was introduced into this country about the middle of the sixteenth century. Worlidge, commenting on it in his work on "Husbandry," written at the latter end of the seventeenth century, calls it "the sweetest, whitest, and most wholesome of roots;" and it is believed to be the plant which the Emperor Tiberius valued so highly as to send for it to the banks of the Rhine. It is too sweet to be generally pleasing to modern palates.

15. Bupleúrum (Hare's-ear).

1. *B. aristátum* (Narrow-leaved Hare's-ear).—*Stem* branched; *leaves* linear-lanceolate, sharply pointed, and 3-nerved; leaves of the partial *involucres* longer than

the umbels, lanceolate, and suddenly tapering to a point, somewhat awned; *flower-stalks* short, equal. Plant annual. This is a small species, from three to six inches in height, with stiff leaves of a pale yellow green, and marked with lines. They have a pungent flavour. The leaves of all this genus are remarkable among umbelliferous plants as being undivided, the foliage of nearly all the other genera being cut into various divisions and subdivisions. The greenish-yellow flowers appear in July. The plant is rare, and is found on rocks about Torquay, and also in the Channel Islands.

2. *B. rotundifólium* (Common Hare's-ear, or Thorow-wax).—*Stem* branched above; general *involucre* wanting, partial ones large, bristle-pointed, thrice as long as the flowers; *leaves* perfoliate, roundish, oval; *root* annual. This is a singular plant, readily distinguished by its perfoliate leaves of a glaucous green hue, and in July by its large greenish-yellow partial involucres, which are far more conspicuous than the small greenish-yellow flowers which are to be seen on the plant at that season. The root is said to be astringent, and the plant was formerly much used as a vulnerary. The English name of Thorow-wax is from the circumstance of a stalk growing through, or thorow the leaf, wax being an old word for grow. The French call it *Le Buplèore*, and the Germans *Das Hafenohrchen;* it is the *Bupleuoro* of the Italians, and the *Haazenoor* of the Dutch. The plant is common in Cambridgeshire, and on many English chalky soils in corn-fields, but it is very local.

Several species of Hare's-ear have been brought from Switzerland, Southern Europe, and Africa, into our

gardens, but they are rather singular than ornamental. Thunberg, when in Japan, found a very curious plant of this genus, the *Bupleúrum gigánteum*. He says that the inhabitants of Roode Zand all assured him, with one voice, that there was a bush to be found on the mountain on which grew wonderful products, such as caps, gloves, worsted stockings, &c., of a substance resembling a fine plush. "I importuned," says this traveller, "almost everybody in the neighbourhood to procure me, if possible, some of the marvellous products, and I resolved not to leave the place till I should have unriddled the mystery. In the course of a few days, I had several of the leaves brought me down from the mountains, which were covered with a thick down, and very much resembled white velvet. The girls, who were used to the management of these leaves, began immediately, with singular dexterity and nicety, to strip off this downy coat, whole and entire as it was, without rending it. After it had been taken off in this manner, it was turned inside outwards, when the green veins of the leaf appeared on one side. Accordingly as the leaf was more round or oval, divers of the above-mentioned articles were formed out of it, the shape being now and then assisted a little by the scissors. The stalks of the leaves furnished stockings and ladies' fingered gloves, the smaller leaves caps; so that the matter was not quite so wonderful as it was wonderfully related." Our traveller, resolving to ascertain the exact plant which produced this downy substance, climbed to the highest summits of the mountains, and there found this singular Bupleurum.

3. *B. tenuíssimum* (Slender Hare's-ear).—*Stem* branched; *leaves* linear, very sharply pointed; *umbels* very minute, and few-flowered; partial *umbels* usually overtopped by their involucres; *carpels* granulated between the ridges. Plant annual. This is a tall slender species, differing from all the others by the little grain-like substances between the ribs of its carpels. It has a wiry stem, about a foot high, and has its umbels of tiny yellowish-green flowers in August and September. It grows on salt marshes, on the south and east coasts of England.

4. *B. falcátum* (Falcate-leaved Hare's-ear).—*Stem* branched; lower *leaves* oblong, or egg-shaped, on long stalks; upper sessile, narrowly lanceolate; partial *involucre* of five lanceolate, pointed leaves, as long as the flowers. Plant perennial. This species, which produces its greenish flowers in July, has a stem from one to four feet in height. Its only recorded British habitat is near Ongar, in Essex. Sir William Hooker and Dr. Arnott remark, that it grows there by the road-side for nearly a mile. It is a doubtful native.

* * * *Umbels compound; fruit not prickly, nor beaked, nor flattened*

16. Œnánthe (Water Dropwort).

1. *Œ. fistulósa* (Common Water Dropwort).—*Root* sending out runners; *stem-leaves* pinnate, shorter than their tubular stalks; *umbels* of very few rays; universal *involucre* wanting; *fruit* tipped with the long rigid styles.

Plant perennial. This Dropwort, though rare in Scotland, is a very common English plant. It grows in ditches and rivulets to the height of two or three feet, and is easily distinguished from its allies by its remarkably tubular habit. The lower leaves are entirely beneath the water, and the leaflets of these are flat, but all the rest of the plant is composed of tubes. The flowers, which are greenish white, expand from July to September, and the angled corky fruits form dense globular heads, each as large as a marble. Like several other species, this is a poisonous plant. It is, with many other similar plants, called by country people Wild Parsley. The French term the Dropwort *L'Œnanthé*, the Germans *Die Rebendolde;* it is the *Druivebloem* of the Dutch, and the *Enante* of the Italians. The plant was said, by Pliny, to smell like the vine in flower.

2. *E. pimpinellóides* (Callous-fruited Water Dropwort).—*Root* of long fibres, studded with round or oval knobs; *root-leaves* twice pinnate, with leaflets acutely cut, or 3-cleft; *stem-leaves* simply pinnate, shorter than their stalks; *fruit* cylindrical, with an enlarged corky base. Plant perennial. This species has a compact umbel of white flowers, the partial umbels being all crowded together. It is from half a foot to three feet in height, and its general involucre has from one to six leaves, but is sometimes wanting; the partial involucres consist of many leaves. Though in its wild state the root is poisonous, yet when the plant is cultivated it loses its noxious properties, and is eaten as food. The knobs then contain a mild farinaceous substance, and

have somewhat the flavour of filberts. The plant is grown about Angers, and the roots sold in the neighbouring markets. This species blossoms from June to August, and is abundant on the pastures of many counties, as in Gloucester, Worcester, Dorset, and Devon, growing occasionally in salt marskes. It is more slender in form than most of the species, and is rather a local plant.

3. *Œ. Lachenálii* (Parsley Water Dropwort).—*Stem* erect; *root-leaves* twice pinnate; *leaflets* oblong, entire, or wedge-shaped, and bluntly 2—3-lobed; lower *stem-leaves* 2—3-pinnate, upper simply pinnate; *leaflets* linear, acute; general *involucre* of many leaves, sometimes wanting; *root* perennial, and composed of thick fibres, or spindle-shaped knobs. This plant is not unfrequent on salt marshes, and occurs, though more rarely, in fresh water. The stem is from one to three feet high, and slightly branched; and its flower, which consists of many distinct spherical partial umbels, may be seen from July to September. The root-leaves are very evanescent, but the root and the fruit distinguish the plant. The latter is top-shaped, narrowing gradually at the base, and crowned with the calyx, which bends inwards. It is less common in Scotland than in England.

4. *Œ. silaifólia* (Sulphur-wort Water Dropwort).—*Root* of oblong knobs; *radical-leaves* twice pinnate; *stem-leaves* pinnate, all the leaflets linear and acute; *fruit* nearly cylindrical, with a corky base. Plant perennial. This is a rare species, growing in fresh-water marshes and meadows, and, in some cases, as at Port

Marnoch, county Dublin, in salt marshes. Its branches are tubular, and its branched stem two or three feet high. It flowers in June, and its partial involucres are of many leaves, shorter than the flowers. It has no general involucre.

5. *Œ. crocáta* (Hemlock Water Dropwort).—*Root* perennial, and of large spindle-shaped tubers; *root-leaves* 2—3 pinnate; *stem-leaves* pinnatifid; *leaflets* stalked, variously cut, those of the upper leaves narrower than the more rounded ones of the lower leaves; *fruit* cylindrical, oblong, without a callous base, and longer than its stalk. This plant is pretty generally known by those who are accustomed to observe wild flowers. It is too tall and large to escape notice, being sometimes five feet, and very commonly three feet in height, and much branched. It has large broad glossy leaflets, various in number and shape, and its large umbels of white flowers appear in July. The juice of its stems, when exposed to the air, often turns yellow, and like most yellow juices in plants indicates noxious properties. Many fatal disasters have been caused by this plant; cows have been poisoned by eating the roots, and persons unacquainted with plants have eaten it under the impression that it was wild celery, and have died in consequence. A few years since, a number of convicts, working on an embankment near Woolwich, dug up these roots, and as there is nothing in their odour which would give the idea that they were deleterious, they imprudently ate them with their dinner. Seventeen men partook of the repast, all of whom were rendered more or less ill, while to four it proved fatal. John Ray asserted, in one of his

works, the poisonous nature of this Dropwort, but his assertion was at that time doubted, though its accuracy was confirmed by some accounts sent him by his friend, "a learned physician," Dr. Francis Vaughan. A case came under the notice of this gentleman, in which seven young men, while fishing in a river, saw and ate the roots of the Dropwort; four or five hours after eating it, one of them fell backwards, and foamed at the mouth, and he died next morning. Four more were seized soon after, and died on the following morning without having spoken a word from the time in which the poison had attained its full power in the system; one only escaped uninjured. Dr. Vaughan also mentions that a Dutchman in his neighbourhood was poisoned by boiling and eating the tops of this plant shred into his pottage; he was soon after found dead in his boat. A little Irish boy had forewarned him of the danger of eating it, but the Dutchman asserted that it was good salad in his country; so that, as Dr. Vaughan observes, he doubtless took it for celery, which its leaves much resemble. A few years since, Dr. Pickells read to the British Association a paper on the *Œnanthe crocata*, in which he observed, that it was one of the most virulent poisons of the British Flora, adding, that it grows in great abundance, particularly in Cork. He had collected records of nearly thirty cases of death caused by eating the root, the quantity in one instance being exceedingly small. The symptoms which preceded death were very appalling, and he thought that this, and not the hemlock, might possibly be the plant used to destroy Socrates, while, from the symptoms of derangement

which accompanied its effects, he considered it probabl that it was "the insane root which takes the reason prisoner," referred to by Shakspeare. Dr. Pickells stated the Dropwort to be as injurious to black cattle and horses as to man. No direct and certain antidote was known; but melted butter, which is popularly deemed efficacious against its effects, had been given in some of the cases which had recovered. Notwithstanding the poisonous properties of the plant, it has been used with success by medical practitioners. Gerarde says, "Beware and take good heed of this and such like simples, for there is no physition that will give it, because there be many excellent good simples which God has bestowed upon us for the preventing and curing of diseases." Dr. Johnston, in his "Flora of Berwick," commenting on this, says, "Despite the advice of the pious Gerarde, modern physicians have given an infusion of the leaves, or the juice of the roots, in leprosy, with success." Goats can eat this virulently poisonous plant with impunity, but it destroys rats and mice, and the roots are used by country people for that purpose. The bruised root is also sometimes applied as a poultice to painful joints.

6. *Œ. Phellándrium* (Fine-leaved Water Dropwort). —*Root* fibrous, and biennial; *stem* erect; *leaves* thrice pinnate; *leaflets* egg-shaped, pinnatifid, cut, spreading; those of the submersed ones wedge-shaped, pellucid, cut; *umbels* lateral, opposite to the leaves; *fruit* egg-shaped. Not only do the fibrous roots of this plant distinguish it from the preceding, but the leaves, cut into slender pointed segments, are very different from the broad

leaves of the Hemlock Dropwort. The upper part of the foliage is of a pale yellowish green, but the submersed leaves are of a deep, dark, rich green colour. The stem is two or three feet high, very thick at the lower part, and sending out runners; and the flowers are produced from July to September. The plant is not uncommon in ditches and ponds in England, but is rare in Scotland. This species is also poisonous.

7. *Œ. fluviátilis* (River Water Dropwort).—*Stem* floating; *leaves* twice pinnate; *leaflets* simple, and pinnatifid; *leaflets* of the submersed leaves pellucid, wedge-shaped, deeply cut at the end; *umbels* opposite to the leaves. Plant perennial. This plant, which is commonly found in streams in the middle and south-east of England, is considered by some botanists a variety of the preceding. It flowers from July to September.

17. Œthúsa (Fool's Parsley).

1. *Œ. Cynápium* (Common Fool's Parsley).—*Leaves* twice pinnate; *leaflets* wedge-shaped, pinnatifid, running down the stalk; partial *involucre* of one leaf longer than the umbel; general *involucre* none. Root annual. This plant, which is also called Lesser Hemlock, is sometimes mistaken for parsley; and as it grows everywhere on cultivated lands, it is sometimes eaten by children, and has proved fatal to them. A few years since two ladies in Somersetshire, who ate of it in salad, suffered very seriously, though both ultimately recovered. Its deleterious principles are said to depend on the presence in its juices of a peculiar alkaline principle

termed *cynapia*. The plant has an unpleasant odour, and its much darker green colour, and its more finely divided leaves, distinguish it at all times from true parsley; and during July and August, when its umbels of white flowers are to be seen, it is well characterised by the involucres of the partial umbels, consisting of three long leaves, which hang drooping all on one side.

18. Fœnículum (Fennel).

1. *F. vulgáre* (Common Fennel). — *Leaves* twice ternate; *leaflets* pinnatifid; *segments* thread-shaped, or awl-shaped. Plant perennial. Most persons accustomed to roam by the sea-side, especially if they often wander among cliffs, know the dark yet bright green fennel, which so often overshadows the Thrift and Sea Lavender, or the Sandworts of the sandy soil at the base of the cliffs. The plant grows also sometimes in places a little way inland, near houses and villages, and is found in profusion in many salt marshes, both of the sea and river. Plentiful as it is, and wholly wild as it would seem to be, many botanists consider that it is not truly indigenous; and when we remember how much the plant was prized in former days, and how often still we see the fennel growing in the cottage or kitchen garden, it is likely that it is rather naturalized than native. As an old herbalist said, "Every garden affordeth this so plentifully, that it needs no description:" he also adds that the "good old fashion" is not yet left off of boiling it with fish, a custom still preserved in the eastern part of England, where it is served

up with boiled mackerel. Some very slight differences exist between the wild and garden plant; the latter is called *Fœniculum dulce*, but it is scarcely distinct, and probably is but a variety. Parkinson, who wrote his celebrated "Garden of Flowers" in 1629, added to it a treatise on "divers physicall herbes, fit to be planted in gardens to serve for the especial use of a familie." He says of the Fennel: "It is sowne of seede, and abideth many yeeres, yielding seede: the roots also are used in broths, and the leaves more seldome, yet they serve to trimme up many fish meates." He adds elsewhere, that "Fennell is useful to strowe upon fish, as also to boyle and put among fish of divers sortes." He tells us, too, that "Cowcumbers and other fruits are pickled" with it; and that "the seedes are much used to be put in Pippin pies, and divers other such baked fruits, as also unto bread, to give it a better relish." Of its general use as a fish-sauce we have plenty of record in old books. Thus, in "Piers Ploughman," one speaks of "a ferthing's worth of fynkel-sede for fastynge daies." Even yet some remains of its old use are seen in many parts of Kent, where, when mackerel is purchased, the fishmonger sends home with it a branch of Fennel, to be used as sauce. To few modern palates, however, is the Fennel agreeable. A sweet flavour in food seems to have been liked by our ancestors, and this plant has a strong and to us unpleasant sweetness. Indeed, were we to study the old prescriptions of cookery, we should probably come to the same conclusion as did Gower on such matters:—

"For who that loketh on the bokes
It seith, confection of cookes,
A man shulde him well avise
How he it toke, and in what wise."

Fennel, however, was evidently much liked, and its odour was considered an addition to that of the nosegay. "There's fennel for you, and columbines," said Ophelia; and Milton also says:—

"A savoury odour blown more pleased my sense
Than smell of sweetest fennel."

In those days when herbs were commonly strewed over the pathway of the newly-married persons, the Fennel seems to have been one that was usually chosen. Thus we have Michael Drayton saying:—

"Whilst some still busied are in decking of the bride,
Some others were again as seriously employ'd
In strewing of those herbs at bridals used that be,
Which everywhere they throw, with bounteous hands and free:
The healthful balm and mint from their full laps do fly,
The scentful camomile, the verdrous costmary.
They hot muscado oil, with milder maudlin cast,
Strong tansy, fennel cool, they prodigally waste;
Clear hyssop, and therewith the comfortable thyme,
Germander with the rest, each thing then in her prime,
As well of wholesome herbe as every pleasant flower,
Which Nature has produced to fit that happy hour;
Amongst these strewing kinds some others wild that grow,
As burnet, all abroad, and meadow-wort they throw."

The Fennel was esteemed of great medicinal use, and its seeds are carminative. They were much recommended by old writers, when boiled in wine, to relieve those who had eaten poisonous mushrooms, or other herbs; or had been bitten by those terrific reptiles, the

scorpions and serpents, which our fathers seemed to think lurked in every hedge. Pliny had recorded the uses of Fennel by the ancients. "As for Fennel," he says, in the words of his translator, Dr. Holland, "the serpents have won it much credit, and brought it into name in this regard, that by tasting thereof they cast their old skin, and by the juyce that it yieldeth doe clear their eyes: whereby we also are come to knowe that this hearbe hath a singular propertie to mundifie our sight and take away the filme or web that overruleth and dimmeth our eyes." Later herbalists and physicians recommended the Fennel root, boiled in milk, as tonic and carminative; and gout and cramp, and yellow jaundice, were directed to be treated by "physic drinks," made in various ways, of roots, leaves, and seeds; while a broth, made of Fennel, was advised for people who were growing too fat, and desired to be made lean. The notion that the use of it gave strength to the constitution is very old. The ancients regarded Fennel as highly restorative, but it is very doubtful whether they intended by that our wild Fennel, or whether the dill or even wild celery was intended. Mr. F. A. Paley informs the author that he considers that the plant which the Greeks and Romans used as crowns was certainly Celery (*apium*), the translation Fennel being quite arbitrary. Longfellow, in his little poem called "The Goblet of Life," apparently alludes to our Fennel as the plant in question:—

"Above the lowly plant it towers,
The Fennel with its yellow flowers;
And in an earlier age than ours
Was gifted with the wondrous powers
Lost vision to restore.

"It gave new strength and fearless mood,
And gladiators fierce and rude
Mingled it in their daily food;
And he who battled and subdued,
The wreath of Fennel bore."

The name of Fennel, as well as its older name of Finckle, and also the Anglo-Saxon *fenol* or *fenouil*, and the old German *fenekel*, were also derived from the Latin *fœniculum*. The plant is usually three or four feet in height, but in places where it grows luxuriantly, as on the hills near the sea at Sandgate, in Kent, it is often six feet high, and its beautiful rich dark-green light foliage is very graceful. Its umbels of yellow flowers appears in July and August. Besides the variety termed *dulce*, there is a cultivated or dwarf variety called *Finochio*, which is eaten as a salad with oil, vinegar, and pepper. This variety has sometimes very thick stalks, which are blanched by placing earth around them, and they then form a very pleasant vegetable. This kind is much cultivated in Italy.

The well-known drug *Assafœtida*, which the Brahmins of India relish so much as to term it food for the gods, is procured from a plant called Fennel, but though one of the umbelliferous tribe, it is of a different genus.

19. Séseli (Meadow Saxifrage).

1. *S. Libanótis* (Mountain Meadow Saxifrage).—*Stem* furrowed; *leaves* doubly pinnate, cut; *segments* lanceolate, very acute, the lowermost leaflets crossing; general *involucre* of many leaves; *fruit* hairy; *root* spindle-shaped, and perennial. This is a very rare

plant of chalky pastures, with a stem of from one to three feet in height. It has been found on the Gogmagog hills in Cambridgeshire, and some other places. It is by some writers termed *Libanótis montána.* It bears terminal umbels in July and August.

20. Ligústicum (Lovage).

1. *L. Scóticum* (Scottish Lovage). — *Leaves* twice ternate; *leaflets* egg-shaped, somewhat rhomboidal, toothed, and serrated; *involucre* of 5—7 linear lanceolate leaves; *calyx* five-toothed. Plant perennial. The Lovage is frequent on the rocky sea-coast of Scotland and the north of England. Its leaves grow mostly from the root, and are dull green, opaque and somewhat succulent, with very large lobed and cut leaflets. The umbels of white flowers appear in July. When bruised the plant emits a strong odour of parsley. The herb is eaten freshly gathered, or prepared as a salad, and the natives of the Shetland Islands, who eat it thus, as well as boiled, call it *Siùnas.* It has an aromatic flavour, but it is somewhat nauseous to palates unused to it, though a Highland gentleman assured the writer, that having from childhood been accustomed to eat it, he regarded it as a great delicacy. Dr. Walker, who remarks that Ray, in his "Synopsis," mentions Highlanders who used to eat it before anything in the morning to preserve them from infection through the day, adds, "and indeed its strong and grateful aromatic taste would plead that in this practice they judged not amiss." The spindle-shaped root is carminative, and

the people on the shores where it is plentiful have from time immemorial prized it for its medicinal qualities. Its flavour is very hot and disagreeable, but as in former days it was reputed to be a cure for ague, it was much planted in English gardens, where, as an old writer says, "it groweth huge and great." In its wild state the stem is about a foot or a foot and a half high, nearly without branches, marked with lines, and often tinged with red. The Highlanders, who call it also Sea Parsley, sometimes chew it as tobacco. The French term it *L'angélique à feuilles d'ache*. It is the *Libstöckel* of the Germans, the *Lavas Kruid* of the Dutch, and the *Ligustico* of the Italians and Spaniards. The Danes call it *Loestilk*.

21. Siláus (Pepper Saxifrage).

1. *S. praténsis* (Meadow Pepper Saxifrage).—*Leaves* thrice pinnate; *leaflets* lanceolate, entire, or twice-cleft, opposite; general *involucre* of one or two leaves. Root perennial. This is a conspicuous plant, growing to one or two feet in height, its leaves being chiefly at the root, and its dull pale yellow flowers placed at the top of its stem. It is not very frequent, but is found on some damp pastures both in England and Scotland, flowering from May to September. It has a very disagreeable odour, and is apparently not liked by cattle. Sir J. E. Smith remarks: "The whole plant being fetid when bruised, is supposed, in some parts of Norfolk, to give a bad flavour to milk and butter; but cattle do not eat it, except perhaps accidentally, or in small quantities,

though sufficient, it may be, to have the effect in question." Its general appearance is very similar to that of the Lovage.

22. Méum (Spignel).

1. *M. athamánticum* (Meu, or Bald-money).—*Leaves* long, twice pinnate; *leaflets* divided into many hair-like segments; general *involucre* of two or three leaves; partial of many leaves. Plant perennial. The Spignel is pleasantly and powerfully aromatic, the root being especially so. This is shaped like a carrot, and prized for its carminative virtues. It has a sweetish flavour, reminding one of the Melilot; and it is said to communicate this to milk and butter, if, during Spring, the cows feed upon it. Sir W. Hooker says that the common name of Bald, or Bald-money, is a corruption of Balder, the Apollo of the North, to whom the plant was dedicated. The French call it *L'Ethuse à feuilles capillaires;* the Germans term it *Barwürr;* and it is the *Meu* both of the Spaniards and Italians. Its Dutch name of *Beerwortel* would indicate that it is sometimes used to flavour malt liquor, which is not improbable. The plant is frequent in the Highlands on dry pastures, and the root is eaten there as an aromatic. It is not rare on mountainous lands in the North of England. It is easily known by its dark thread-like leaves, and its strong odour. It bears yellowish green flowers in June and July.

23. Crithmum (Samphire).

1. *C. maritimum* (Sea Samphire).—*Leaves* fleshy, 2—3 pinnate; *leaflets* lanceolate, few, narrowed at both ends. Plant perennial. From May to August the greenish white flowers of this samphire may be found in thick clusters, but they are not very showy. Clumps of the plant, however, by their foliage, enliven the sea-cliffs on several parts of our shores. On the chalky heights of Dover the plant is abundant, now and then growing within the reach of him who wanders at their base, but more generally springing from rocky crevices at so great a height, that he cannot clearly distinguish the form of leaf or blossom. Thousands of these are seen only by the sea-bird which wings its way above them, or by the adventurous gatherers of samphire. It is not often we could say now of these cliffs:—

> "Half-way down
> Hangs one that gathers samphire; dreadful trade!
> Methinks he seems no bigger than his head."

And it is well that samphire gathering, both from the Shakespere cliff, and the cliffs at the eastern part of the old town of Dover, is pretty well discontinued. The plant was formerly gathered by suspending a rope from the summit of the cliff, on which a man descended. In the year 1823 a man was thus occupied, when the rope suddenly gave way, and he was dashed to the earth and died immediately. This man had pursued his dangerous occupation during the summers of forty years, and

would often talk to visitors of Shakespere and King Lear, jocosely saying that he himself was king in that little domain, for none ventured to gather his samphire. Now and then some adventurous young sailor clambers up the lofty steeps to gather some tufts half-way up, just when those cliffs are looking most beautiful in their summer flowers, and when, in the words of Agnes Strickland,—

"The Burnet there securely blows,
And seems to turn away
When o'er her hardy bosom blows
The drifting spray.

"Unbidden there the Borage springs,
Grey lichens creep beneath,
And graceful Persicaria flings
Her rosy wreath:

"And there the emerald samphire oft
Appears a tempting sight,
And lures the venturous boy aloft
To scale the height:

"The Bugloss buds of crimson hue
To azure flowers expand,
Like changeful banner, bright to view,
By wild winds fann'd."

Not one of our native plants can at all be compared in flavour with this when pickled with vinegar and spices. It is very pleasantly aromatic, both in odour and taste, and very succulent. It is not, however, prized as it was some years since, for it was formerly not only pickled, but eaten raw as a salad, or boiled for the table. Evelyn, in his treatise on "Sallet Herbs," praises it very highly. It has been cultivated on inland

spots with success in sheltered situations, where the soil has been sprinkled with powdered barilla. The name of Samphire appears to be a corruption of its old French name, *Herbe de St. Pierre;* the French now call it *Creste marine.* This plant is the *Meerfenchel* of the Germans, and the *Finichio marina* of the Italians. Its stems are usually about half a foot high, and much branched. Both stems and foliage are of a pale green tint. It is a social plant, often forming large masses a yard in diameter on the surface of the cliff, but it never grows within reach of the wave. It is a rare plant on the Scottish coasts.

* * * * *Fruit not prickly nor beaked; much flattened.*

24. Angélica (Angelica).

1. *A. Archangélica* (Garden Angelica).—*Leaflets* narrowly egg-shaped, all sessile, some running so closely together as to form a wing on the stem, terminal one 3-cleft. Plant biennial. This plant, which is the *Angélica officinalis* of many writers, is not truly wild, though always enumerated in our British Flora, because it has long been naturalized here in consequence of its frequent culture in gardens in earlier times. Several damp places are recorded as its habitats, as the side of the Thames, near Dorking. It cannot be overlooked, for it is a tall and handsome plant, about three or four feet high, with a remarkably smooth stem. The leaves are of bright glossy green, and it bears umbels of white flowers in July.

1. GARDEN ANGELICA.
   Angelica archangelica.
2. WILD ANGELICA.
   A. sylvestris.
3. SEA-HOG'S-FENNEL.
   Peucedanum officinale.
4. MARSH [illegible].
   Peucedanum
5. BROAD-LEAVED [illegible].
   Pastinaca
6. COMMON WILD PARSNIP.
   Heracleum

Our ancestors prized this Angelica very highly, and its leaf-stalks were very commonly blanched and eaten with bread and butter as celery, or they were dried and preserved with sugar to form the sweet-meat called Candied Angelica. In Iceland, Siberia, Norway, and Lapland this plant is still greatly valued as an article of food; and it is very abundant in the North of Europe. The Laplanders, who eat it in various ways, and season dishes with it, give it so many names as quite to perplex the stranger; and in some countries it is frequently called by a name signifying the Holy Ghost. Its names throughout Europe show the high opinion entertained of this aromatic plant, and the belief of its "Angelic" virtues. It is the *Angélique* of the French; the *Angelica*, or *Engelwurz*, of the Germans; the *Engelwortel*, of the Dutch; and the *Angelica*, of the Spaniards, Portuguese, Italians, and Russians.

It is not only as food but as medicine that the Angelica was and still is valued. It is, doubtless, carminative and stimulant. The Laplanders believe of this plant as the Highlanders do of the Lovage, that the use of it will lengthen life, and they therefore chew it as they would do tobacco. They also mix it with their bread, both because they like its flavour, and consider it a preventive of disease. In our own country it was believed to have wonderful efficacy against pestilence and a variety of disorders. Parkinson says of it, "Haveing showed you all the herbes that are most usually planted in kitchen gardens for ordinarie uses, let me now adde a few others that are also noursed up by many in their gardens to preserve health, to cure such

small diseases as are often within the compasse of the gentlewoman's skill, who to helpe their own family and their poore neighbours that are farre remote from Physitions and Chirurgeons, take much pains both to doe goode unto them, and to plant those herbes that are conducing to their desires. Angelica, the garden kinde, is so goode an herbe that there is no part thereof but is of much use, and all cordiall and preservatives from infectious or contagious, diseases, whether you will distill the water of the herbe, or preserve or candie the greene stalkes or rootes, or use the seedes in powder or distillations or decoctions with other. things." In France, even of late years, the root of Angelica has been prescribed by good authorities as a remedy in diseases of the chest and of sore throat; it was also popularly believed to avert hydrophobia, as well as to remove the effects of intoxication. A plant so universally esteemed of course became allied to some superstitious practices. Thus we find Coles, in his "Art of Simpling," remarks, "that if one hang Mistletoe about his neck the witches can have no power of him. The roots of Angelica doe likewise availe much in the same case, if a man carry them about him as Fuchsius saith."

2. *A. sylvéstris* (Wild Archangel).—*Stem* furrowed; *leaves* twice pinnate; *leaflets* egg-shaped, often somewhat heart-shaped at the base, and serrated; *umbels* large. Plant perennial. This is a large and noble plant, commonly attaining, on wet places, the height of three or four feet, and in some places rising to that of eight or ten feet. Its stem is of a purplish colour, one or two inches in diameter, and covered with a

whitish down, which may be easily rubbed off with the finger. Its flowers appear in July, and are white, tinged with pink. It is aromatic, but less so than the garden species. It is frequent in moist bogs and marshy places. After the stem is withered a very elegant little fungus often grows on this as well as other umbelliferous plants of damp places. This is the yellow hairy sessile Peziza. It is of a yellowish cottony surface externally, but inside it is grey, and nearly smooth. In dry weather it closes up its tiny cup, and does not look like a Peziza. It is often very pretty in the month of April, on the dead stems of the plant, and on dry sticks in damp woods.

25. Peucédanum (Hog's-fennel).

1. *P. officinâle* (Sea Hog's-fennel, or Sulphur-weed).—*Stem* round; *leaves* five times 3-parted; *leaflets* linear, acute; general *involucre* 3-leaved, falling early; *leaflets* very long and narrow; *root* perennial. This is a very rare plant of the sea-shore, growing in the salt marshes of Kent and Essex, and conspicuous from July to September by its large umbels of yellow flowers, and its long narrow flaccid leaflets. It has a strong odour of brimstone, which is still more powerful in the roots than in the foliage or flower, though the scent of the roots of some foreign species has far greater strength. Our Hog's-fennel does not appear to yield much resin, but in warm climates the resin of some kinds is abundant. Our plant was in former days considered a good remedy for hypochondriasis.

Professor Balfour, remarking on the salubrious nature

of many umbelliferous plants found on the sea-shore, mentions this as one among several which are so. He quotes Dr. Walker's remark on this subject: "Though," says that writer, "I would not propose it as a rule to be depended upon in so dangerous a case as poisons, yet I think it highly probable that all the maritime plants of this class are salutary and excellent. This I am certain of, that none of the umbelliferous plants known to be poisonous are stationed on the sea-shore, all the maritime plants of this class whose qualities are known are innocent; and it is further remarkable that this is not to be ascribed to their dry situation among the maritime rocks, or on the sandy shore, for the celery and sulphur-wort grow on the salt marshes, on as watery a soil as any of the umbelliferous aquatics which are poisonous. Here, I imagine, lies an essential difference between plants that inhabit salt water and fresh." Professor Balfour remarks, that Dr. Walker's conclusions may be too general, though there is certainly much truth in his statements, but further information is necessary before all umbelliferous plants of salt marshes can be regarded as wholesome. We should hardly like to partake of the wild celery gathered from the salt marsh, though it has certainly been eaten with impunity: and Sir Wm. Hooker and Dr. Arnott remark of the root of this Sulphur-wort, that it is reckoned stimulant, but is of dangerous internal use. It is quite certain, as Dr. Walker has observed, that some plants lose some of their noxious properties when growing on salt marshes, nor is the remark true of the Umbelliferous class only. The writer of these pages, when at Pegwell Bay, near

Ramsgate, in the course of the last summer, found a quantity of the *Ranunculus sceleratus* growing near a salt pool. While pointing out to some friends this well-known acrid herb, she rubbed her hands with its juices, in order to show its irritating effects, having always produced this very readily in former experiments with the plant. In this instance, however, the juice proved harmless, not even the slightest redness was perceptible on the skin, nor could its application to the skin of any of the party cause any irritation, though several specimens of the ranunculus gathered from various parts of the salt marsh were applied repeatedly.

The Hog's-fennel was well known to the herbalists in Queen Elizabeth's time, who described it as growing plentifully in the low salt marshes near Faversham, in Kent, and recommended both its external and internal uses for cramp, palsy, head-ache, and leprosy. They called the plant also Brimstone-wort. It is in France termed *Peucedane;* in Germany, *Haarstrang;* and the Italians and Spaniards call it *Peucedano.*

2. *P. palústre* (Marsh Hog's-fennel, or Milk Parsley). —*Leaves* thrice pinnate; *leaflets* pinnatifid, the segments narrow and pointed; *involucres* of many leaves; *stem* furrowed. Plant perennial. This is a very local plant, found only in a few fenny districts, as in the Isle of Ely. It is milky, and every part abounds with a bitter juice of a most unpleasant odour, as thick as cream, which soon dries into a brown resin. Its properties in our climate are doubtful, and probably dangerous; but the root is said to be used by the Russians for giving a flavour to various articles of cookery, in the

same way that we should use ginger. This plant is about four or five feet in height, and bears white flowers in July and August.

3. *P. Ostrúthium* (Broad-leaved Hog's-fennel, or Master-wort). — *Leaves* twice ternate; *leaflets* broadly egg-shaped, cut, and serrated; general *involucre* none. Plant perennial. This plant was called Master-wort by the old writers on plants, because of its sovereign power over manifold diseases, and could it effect relief in half the cases for which they prescribed it, it would indeed be a plant of power. Its properties, however, though thus greatly overrated, were not merely imaginary. Its bitter biting root is still prized by country people as a cure for the tooth-ache, and probably not without reason, as, like many other pungent substances, it would afford at least temporary relief. Some good writers on medical Botany consider it an excellent febrifuge, and Lango says that agues have been cured by its use when Peruvian bark was ineffectual. "The root of Master-wort," says an old herbalist, "is hotter than pepper, and is available in cold griefs and diseases. Used as a decoction with wine it is good against all sorts of cold poison, and against all wounds, especially those that come of envenomed weapons.

This is not a truly wild plant, though often found in moist meadows in Scotland; but it was formerly frequently planted in the garden, and was boiled for the table. Its stem is one or two feet high, and its white flowers expand in June. Its large sheaths are very conspicuous, and it has several narrow leaves in the involucres of the partial umbels.

26. Pastináca (Parsnep).

1. *P. satíva* (Common Wild Parsnep).—*Stem* furrowed; *leaves* pinnate, downy beneath; *leaflets* egg-shaped, cut and serrated, terminal one 3-lobed; *involucres* none. Plant biennial. The Parsnep is very frequent on chalky or gravelly soils, and is abundant in Hampshire and Essex, as well as in many parts of Kent, growing on field borders, hedge banks, meadows and sea cliffs. Its leaves are of bright green, and in July, August, and September, it produces its convex umbels of yellow flowers, which are succeeded by oval fruits. It has, when bruised, a strongly aromatic scent; and its fruits, which seem full of oil, will, if tasted, leave a pungent flavour on the tongue; the oil has been expressed and used with success in cases of intermittent fever. If we draw from the soil its long spindle-shaped roots, we can have no doubt, from its odour, that our plant has some affinity with the well-known garden edible Parsnep; and tough as it is in its wild state, that culinary vegetable is but the cultivated variety of our native root. In its improved condition the root is full of a pleasant farinaceous substance, too sweet in flavour to be universally relished, though highly nutritious. An old custom prevails, of eating this vegetable during Lent, and in the North of Scotland it forms the daily meal of many a group of peasant children, who eat it with much satisfaction, when beaten up with milk, and whose sturdy frames and rosy cheeks fully attest the wholesomeness of the diet. Gerarde says that, in his day, good bread was

made of the root; and when this is slowly roasted in turf ashes, it forms almost as pleasant a food as the roasted potato. The Parsnep seems to have been more eaten in England in former years than now, and it would still, doubtless, be much cultivated, but that the soil on which it grows is well fitted for the more productive potato, which is also more nutritious, and more generally liked as food. In the North of Ireland, an agreeable beverage is made from Parsnep roots, brewed with hops, and a very fine spirit has been obtained by distillation from this root. Parsnep wine too was some years ago made in country places, but the writer, who drank of this beverage in early days, is inclined to think that the wine owed much of the excellence of its flavour to the other ingredients which mingled with the root in its composition. This wine is still made in some other countries.

One variety only of the Parsnep is in common culture in England, but a number of sub-varieties arise from this; and in some Catholic countries, where it is more largely grown, other more distinct varieties exist. The climate of France, as well as that of Germany, is well suited to the growth of this vegetable, and in these countries, as well as in Guernsey and Jersey, three varieties are well distinguished—the Coquaine, Lisbonaise, and Siam. The Coquaine Parsnep is very large, its root sometimes running three or four feet into the soil, and attaining three or four inches in diameter, while its mass of foliage looks at a distance almost like a shrub, and proceeds from the whole crown of the root. This kind is extensively planted in the Channel Isles,

COW PARSNIP
Heracleum sphondylium
2. SMALL HART-WORT
Tordylium officinale

3. GREAT HART-WORT
Tordylium maximum
4. CORIANDER
Coriandrum sativum

as fodder for cattle; but the smaller-rooted Siam is more tender, and better fitted than the others for human food. It is supposed that the excellence of the Alderney cow for the purposes of the dairy, may be in great measure owing to its feeding so much on Parsneps.

A light, deep soil, free from stones, is requisite for the growth of this root, and when in October the leaves at its summit are turning dull yellow, and beginning to decay, then the roots are fit for use. It is not, however, absolutely necessary to withdraw them at that season from the soil, as they are not, like the carrot, injured by the frost, and may safely remain in the ground during winter. The French term the Parsnep *Le Panais*, the Germans *Die Pastinake*. It is the *Pinsternakel* of the Dutch, the *Pusternak* of the Russians, and the *Pastinaca* of the Spaniards and Italians. The plant formerly known as *Pastinaca dissecta*, but now called *Zozínia absinthifólia*, has eatable roots, which are celebrated in Turkey and Persia for their salutary properties.

27. Heráceum (Cow-Parsnep).

1. *H. Spondýlium* (Common Cow Parsnep).—*Leaves* pinnated and hairy; *leaflets* pinnatifid and cut, terminal one somewhat palmated; *fruit* nearly round and smooth. Plant biennial. Every one used to the country has seen this large rough-looking plant, standing upon a stem four or five feet in height, among the meadow grass, or growing amidst the bushes of the hedge-bank or copse. The large thick umbels of white

or pinkish white flowers appear in July, and the swelling pale green sheaths which envelope the leaf-stalk are very conspicuous. It is, as one might infer from its name, a nutritive and valuable herb for cattle, and Mr. Cobbett stated that he had fed six or eight horses for weeks together on this plant. In Sussex it is gathered for rabbits, sheep, and swine, and it is commonly known in that county, as in Kent, by the name of Hogweed. Horses eat it when on their pasture, but they are not so fond of it as cows are. An attempt has been made in this kingdom to manufacture sugar from the dried stalks of this plant, but it required forty pounds of the stalks to yield one quarter of a pound of sugar, hence the amount of labour required rendered the process too expensive.

This plant is very abundant in some of the colder countries of Europe. The grass plains at the west of Kamschatka, are in September rendered of most singular appearance, by the astonishing height of two withering umbelliferous plants, which give a peculiar character to these wide tracts. They are described as having strong stems, more than fifteen feet high; and they grow in great numbers, and project far beyond the grasses and other herbaceous plants. Dr. Griesbach thinks that they must belong to *Angelica*, and to this genus *Heracleum*. The Kamschatdales commonly call the latter plant *Ratsch*, sweet herb, and many are the uses to which they apply it; large bundles of the stout stems are collected, and after being peeled, are laid in the sun. During the process of drying they become covered with a sweet white powder, which is esteemed a delicacy. It would be well if these poor people confined

themselves to this use of the plant, or to their practice of boiling and eating the young shoots, which taste like asparagus; but they have unfortunately discovered that a fermented spirit may be made from its juices, and they are said to drink a quantity of this liquor, in order to prepare, by a violent excitement, for a dedication of themselves to their deities. Travellers relate that these rude people become, when under this influence, most violently irascible, and that the use of the liquor so affects the mind, that they are seized with a violent desire for self-destruction. Dr. George Moore, referring to this, and similar usages among those on whom the glorious light of Revelation has never dawned, remarks, "The Thracians used to intoxicate themselves, by casting the seeds of certain poisonous plants into a fire made for the purpose, around which they sat and inspired the narcotic fumes. There can be no doubt that the incantations of witchcraft and magic were generally attended with the practice of burning herbs of a similar kind, that by the aid of poisonous fumigations, the imaginations of those who were subjected to them might be more easily deluded; for when the nervous system is under such influences, perception is confused, and the mind becomes delirious, and the soul beholds what it either hopes or fears. Hence we see, that the transition from intoxication, to that kind of inspiration known to belong to the mysteries of heathen priestcraft, is most natural."

"Such artificial modes of assisting mental abstraction have," adds Dr. Moore, "been at all periods resorted to. Thus Pliny informs us, that the soothsayers were accustomed to chew roots, supposed to be of a certain species

of Henbane. The Hindoos employ the Indian hemp for the same purpose; and in St. Domingo, the supposed prophets chew a plant called Cohaba, that they may be better able to look into the unseen world, and perceive the shadow of coming events. Sophocles calls the priestesses of Delphos laurel-eaters, because they were in the habit of chewing the leaves of that plant, before they mounted the tripod. The natives of Kamschatka are said to use the plant *Heracleum Spondylium*, with a view to prepare themselves for dedication to their gods." Nothing can better prove the corrupting nature of the religion professed by the heathens, when deeds of darkness like this fitted them for its observance; nothing more forcibly show the difference between the gods, whose influence they sought, and Him of whom His Holy Word declares that His true worshippers must worship Him with the spirit and the understanding.

A kind of beer for ordinary purposes is also made of this plant, both in Siberia and the neighbouring countries, and it is said by Gmelin, in his Flora Siberica, to be better than that made of corn.

The Cow Parsnep was formerly called *Madnep;* the French term it *Berce*, the Germans *Heilkraut*, and the Dutch *Heilkruid*. It is the *Spondillo* of the Italians, the *Espondillo* of the Spaniard; and in Russia it is termed *Putschki*. The word *Heracleum* is derived from Hercules, who is said to have brought the plant into some medicinal use, as Achilles is said first to have applied the Yarrow to the healing of wounds. A modern French author has conjectured, that Hercules was not only a great hero, but also a superior botanist and

doctor; and though this might be difficult of proof, yet it cannot be denied. We know that in later days, towards the end of the seventeenth century, the pilgrims to the Holy Land were tended during sickness in the hospitals prepared for them at Jerusalem, and that knights and soldiers, in imitation of Hercules, Achilles, and other warriors, became physicians to the best of their power, and carefully nursed the sick. The old, tedious histories of knights of the middle ages, show how the warriors strove to obtain the best balsamic mixtures, and the celebrated composition called *Baume de commandeur*, was made by these knights. True it is, that, like Achilles and Hercules, whom they copied, their botanic science was somewhat uncertain; but they won the faith of the patient in their skill, and thus beneficially acted on his body by means of his mind. Doubtless, too, their natural sagacity, aided by that earnest will, which marvellously quickens the human intellect, enabled them often to select appropriate plants for "physic drinks." The soldier would, in the early ages of the world, be likely to practise the art of healing, and to study the nature of the vegetable remedies, for the sake of the companion who might have suffered from the sword of the common enemy.

28. Tordýlium (Hartwort).

1. *T. officinâle* (Small Hartwort).—Outermost *petals* of the flower with two unequal lobes; partial *involucres* lanceolate, about as long as the umbels; *fruit* rough, and the thickened margin distinctly notched. Plant

annual. This Hartwort, which has pinkish white flowers on a hairy stem, about a foot high, was described by our early botanists, as growing in the neighbourhood of London. Its flowers, which expand in June and July, are very beautiful. Some botanists doubt if it was ever truly wild in this country.

2. *T. máximum* (Great Hartwort).—Outermost *petals* with two equal lobes; *involucres* shorter than the umbels; *fruit* scarcely notched, but having a thick rim at its margin, and rough with bristles. Root annual. This is a rare plant, found on waste grounds near London, Oxford, and one or two other places. Its flowers are small, and of a pinkish colour, appearing in June and July, and the stem is from two to four feet high. The French call the Hartwort *Le Seseli de Crète*. It is the *Drehkaut* of the Germans, and the *Gemein Krielzaad* of the Dutch. A very singular genus of plants, named by Linnæus Hasselquista, after his friend Dr. Frederick Hasselquist, is supposed to be but a monstrous form of the Hartwort.

* * * * * *Fruit globose, without prickles; carpels scarcely separating.*

29. Coriándrum (Coriander).

1. *C. satívum* (Common Coriander).—*Stem* erect, leafy, round, and marked with lines; lower *leaves* twice pinnate and cut; upper ones with segments more numerous, the segments of the upper leaves being hair-like and rigid. Plant annual. The Coriander has so long

been found growing without culture in several places of this kingdom, that it is enumerated among wild plants, though it has doubtless escaped from cultivation. It occurs on waste places and fields, but chiefly near towns, and seems more frequent in Essex than in other counties, having been much grown there. Its stem is about a foot or a foot and a half high, and its white blossoms may be seen in June. The plant may be known by its very singular and pleasantly aromatic fruit, which, when fully grown, is a little round ball, marked with a few ribs. The foliage has a strong and offensive odour. In the cottage garden there linger yet—

> "Sweet Chervil's cottage valued weed,
> And Coriander's spicy seed."

These seeds are used to disguise the flavour of medicines, and form an ingredient in curry powder, and when covered with a coating of sugar, constitute the well-known Coriander comfits. To render their flavour milder, the seeds were formerly steeped first in wine, and afterwards in vinegar. The flavour of the aromatic seeds is better liked in some other countries than in ours, and Feuillée says that in Peru they are used to so great an extent in the cookery, that an insupportable odour arises from some of the dishes brought there to table. Coriander is used as a spice by the Arabs, and is much relished in Egypt and India. It was used by the ancients, both as a condiment and medicine; and from a passage in the Book of Numbers, where the manna is said to be like Coriander seed, it would appear to have been in common use among the Hebrews.

It is frequently mentioned also by the Talmudical writers.

The French term the plant *Coriandre;* the Germans call it *Koriander;* the Dutch and Russians, *Coriandro;* and the Spaniards *Cilantro.*

* * * * * * *Fruit short and thick, not prickly nor beaked; somewhat flattened.*

30. Conium (Hemlock).

1. *C. maculátum* (Common Hemlock).—*Stem* smooth, spotted; *leaves* thrice pinnate; *leaflets* lanceolate, pinnatifid, with acute, sometimes cleft, segments. Plant biennial. The tall dark-leaved Hemlock, with its stem of purplish brown, spotted and striped with purple, is not uncommon on waste places, and about ruins and walls. The hollow stem is two or three feet high, much branched at the upper part, and bearing its umbels of white flowers in June and July. Although the foliage is of a dull green, yet it is remarkably elegant in form; and in some places the plant grows to a great size. When summer is over, its dead stalks rattle in the wind. Country people call them Kecksies; and the Hemlock had the old name of Kex. In an old writer, we find one saying, "I'll make these withered Kexes bear my body." The word Kick or Kex seems now entirely applied to the dried stalks. It is so in Kent; and Clare, who well knew all the common names of flowers in Northamptonshire, describing the summer scene by a river's side, says—

"Some went searching by the wood,
Peeping 'neath the weaving thorn,
Where the pouch-lipp'd cuckoo-bud
From its snug retreat was torn;
Where the ragged-robin stood
With its piped stem streak'd with jet;
And the crow-flowers, golden hued,
Careless plenty easier met.
As the cart-rut rippled down
With the burden of the rain,
Boys came drabbling from the town
Glad to meet their sports again;
Stopping up the mimic rills
Till they forced their watery bound.
Then the Keck-made water-mills
In the current whisk'd around."

Sheep are said to be the only domestic animals which will feed on the Hemlock; nor do many insects choose its foliage for their food, though the song-thrush will make a meal on its seeds. To the skilful physician the plant affords a valuable means of alleviating human suffering; and the extract made from it is a sedative and alterative medicine. Considerable care is requisite in the preparation of the Hemlock for medicinal purposes; and, like all plants used as remedial agents, it is important that it should be gathered at the proper season. Vegetable physiologists have fully ascertained that during the growth of a plant remarkable changes occur in succession, both in its chemical composition, and sensible qualities. The Meadow Saffron (*Cólchicum autumnále*) may be instanced as a plant in which the properties are entirely changed during the progress of its development. The roots of Valerian are of little worth unless taken from the ground in the autumnal season; and the Fox-

glove needs, in order that it may retain its properties, to be gathered just as it is coming into flower. The many who seek relief from the medicine afforded by the root of the Dandelion, would do well to lay in their store during the spring, as it is believed to be stronger in April than in any succeeding month; though at no season of the year are the properties of this root wholly inert. The root of Henbane has scarcely any of its powers developed in spring, and if gathered just as the young shoots were emerging from the soil, would be almost useless in medicine, though it affords, when gathered in autumn, a powerful and valuable drug. Dr. Fothergill remarked of the Hemlock, "I know from repeated experiments, that the extract which has been prepared from this plant before it had arrived at maturity, is much inferior to that which is made when the plant has acquired its full vigour, and is rather on the verge of decline; just when the flowers fade, the rudiments of the seeds (fruit) become observable, and the habit of the plant inclines to yellow, is the proper time for collecting the Hemlock."

The Hemlock has attained a general celebrity, from the belief that the poison drunk by Socrates was made from its juices. The *Coneion* of the ancients was evidently a powerful poison. It was given to him whom the Areopagus had condemned to death. It was swallowed by ancient philosophers who had grown weary of life, and its cares, and infirmities; by men who knew not the solemn truth that our lives are not our own, and who had never learned from Revelation that no life need be useless, since God may be honoured by patient suf-

fering as much as by active service—by a resigned and thankful old age, as surely as by a fervid and vigorous youth. They came to their last repast as to a banquet, and, crowning themselves with garlands, drank the fatal *Coneion*, and surviving men praised the courage and fortitude which inspired them. Both Linnæus and Lamarck believed that the juices of the Hemlock furnished the poison, though recent writers have assigned other plants as more probable; and the Dropwort Hemlock, the *Œnanthe crocata*, has, as well as several other highly poisonous herbs, been deemed the poison of the ancients. Professor Burnett remarks on this subject, "Theramenes and Phocion, as well as Socrates, were poisoned by the *Coneion;* and though the effects recorded in the 'Phædo' are not exactly in correspondence with those which we should look for from the common Hemlock, it must be remembered, in the first place, that the difference of a more southern climate will affect the energy of the plant, and secondly, that the historian is not a physician, from whom an exact detail of symptoms could be expected. That the modern *Conium* was the *Coneion* of the Greeks is rendered probable by its being very common in Peloponnesus, 'most abundant,' says Sibthorpe, 'between Athens and Megara;' and that the *Cicuta virosa*, *Œnanthe Phellandrium*, and *Œthusa cynápium*, which have been occasionally referred to, are not found in any part of that country."

The Hemlock is rarely eaten by mistake, but the old botanists recommend to such as had taken it inadvertently a draught of vinegar—a remedy still approved in cases where persons have eaten the berries of the Deadly

Nightshade. The Hemlock is mentioned in Scripture; thus the prophet Hosea says, "Judgment springeth up as Hemlock in the furrows of the field." As the Hemlock, so common in our fields, is somewhat rare in those of the Holy Land, many commentators believe that some other plant is intended; and a species of Nightshade has been supposed to be the Hemlock of Scripture. It is, however, now quite impossible to determine with exactness what was the plant which formed the comparison of the Prophet. The most learned of the Rabbins considered it to be the *Conium maculátum*.

31. Physospérmum (Bladder-seed).

1. *P. Cornubiénse* (Cornish Bladder-seed).—*Root-leaves* thrice ternate; *leaflets* wedge-shaped, cut or deeply 3-lobed, with acute segments; *stem-leaves* ternate, few, the segments long and narrow. Plant perennial. This rare plant is found in Cornwall, and in the borders of the neighbouring county of Devonshire. It has a stem a foot and a half high; and bears its terminal umbel of white flowers in July and August. The coat of the carpel is so loose that the seed may be shaken about in it.

32. Smýrnium (Alexanders).

1. *S. Olusátrum* (Common Alexanders).—*Stem* round; *stem-leaves* ternate, stalked, serrate; *root* biennial. The word *Olusatrum*, derived from *olus*, pot-herb, and *atrum*, black, must refer rather to the colour of the ripened fruit than to the foliage or stems of this plant. It is

truly remarkable for its bright, glossy, green foliage; and during February the young sprays of leaflets give the hedge-bank a degree of rich verdure afforded, at that season, by no other plant. The Alexanders grows on waste places, among ruins, but most especially near salt rivers or the sea; often abounding in great quantity on the sea cliffs, as it does on those of Dover, and looking, in early spring, the brightest thing there, save the clumps of yellow wallflowers. By May, the dense rounded clusters of greenish yellow flowers are very numerous; and the broad membranous bases of the leaf-stalks are swollen out into very conspicuous sheaths. A month later, and the dark aromatic fruits succeed the flowers; and by September the pale withered stalks seem the skeletons of the departed plant. Many persons think the odour of this herb agreeable, and that it resembles that of the Celery; and although we may not agree with them, yet it is quite certain that the flavour of the Alexanders was liked, and the plant cultivated by our forefathers. Parkinson, in describing the "ordering of the kitchen-garden," in his time, (1629,) says, "Alisanders are to be sowne of seede, the tops of the rootes with the greene leaves are used in Lent especially;" and the plant was eaten, both boiled and as a salad, before the use of Celery had become general. The Italians introduced the culture of the latter vegetable in the seventeenth century; and after that time, not only the Alexanders, but several other herbs then in common culture, became less used. It was the young shoots principally which were dressed for the tables of the olden times, and these, quite early in the spring, have an

odour not altogether unpleasant, reminding us a little of what Pliny said of the plant,—that it had the flavour of myrrh. The modern taste for vegetables may be said to be more cultivated than it was in earlier days, when the kitchen-garden was scantily supplied. What Parkinson says of the habits of people in his time, with regard to vegetables, was doubtless true to an even greater extent two or three centuries sooner. In treating of "the manner of ordering of many sortes of herbes and rootes for sallets," he says, "If I should set downe all the sortes of herbes that are usually gathered for sallets, I should not onely speake of garden herbes, but of many herbes which grow wilde in the fields, or else be but weedes in a garden; for the usuall manner with manie, is to take the yong buds and leaves of everything, almost, that groweth, as well in the garden as in the fields, and put them all together, that the taste of the one may amende the relishe of the other." It must be remembered that most of the writers of this period used their word "sallet" in a wider sense than we do ours of "salad." They included in the description of sallets, such plants as the asparagus, which were used only in a cooked condition; and our word "edible" expresses what they meant. They were content with such plants as grew wild, because they knew few others; yet there are but a small number of our native vegetables which afford, even when cultivated, a good and wholesome food; for most of those seen at our tables are, like our potatoes, French beans, peas, lettuces, onions, and radishes, the product of distant soils. The frequent wars of the earlier times prevented men from

cultivating the land for anything, save such produce as was necessary to sustain life, though during periods of peace horticulture made some little progress. Doubtless, the description of Harrison is true: "Such herbes and fruits," he says, "as grow yeerlie out of the ground of seed, have been verie plentiful in this land in the time of the first Edward, and after his daies; but in processe of time they grew also to be neglected, so that from Henrie the Fourth, till the latter end of Henrie the Seventh, and beginning of Henrie the Eighth, there was little or no use of them in England, but they remained either unknowne, or supposed as food more meet for hogs and savage beasts to feed upon than mankind; whereas in my time their use is not onely resumed among the poore commons, I mean of melons, pompions, gourds, cucumbers, radishes, skerrits, parsneps, carrets, cabbages, navews, turneps, and all kindes of salad herbes; but also fed upon in daintie dishes, at the tables of delicate merchants, gentlemen, and the nobilitie, who make their provision yearlie for new seeds out of strange countries, from whence they have them aboundantlie." Hume tells us, that when Catharine of Arragon wanted a salad she had to despatch a person to Flanders to procure one. Some kind of salad might, however, have been doubtless procured for the Queen in England, though it was probably so inferior to that to which in her earlier days she had been accustomed, that she might not choose such a dish to appear at her table. It is likely that it would have been mainly composed of some herbs which, as Evelyn says of mushrooms, "Nature affords her vagabonds under

every hedge;" but winter-cresses, water-cresses, lamb's-lettuce, alexanders, samphire, chervil, rampions, and rockets, were even then commonly used as salads; and the goosefoots and arraches were boiled for the tables of those who could not procure the more expensive carrots, parsneps, and skirrets. Doubtless, many a one provided himself like one described in Albion's England:—

> "A sheeve of bread as brown as nut,
> And cheese as white as snowe,
> And wildings of the season's fruite
> He did in scrip bestowe."

The stem of the Alexanders is very stout, furrowed, and often three or four feet in height. The name *Smyrnium* is synonymous with myrrh. The plant is called *Smyrner-Kraut* by the Germans; *Maceron* by the French; and *Macerone* by the Italians. The young shoots, when boiled, are said to resemble Asparagus in flavour. Pennant mentions that they were boiled and eaten by sailors, who, in returning from long voyages, happened to land on the south-west coast of the Isle of Anglesey, where the plant is abundant.

* * * * * * * *Fruit oblong, usually more or less beaked.*

33. Scándix (Shepherd's-needle).

1. *S. Pécten* (Common Shepherd's-needle). — *Beak* much longer than the roughish fruit, compressed and fringed with fine stiff hairs; *leaves* thrice pinnate, segments short and slender. Plant annual. A common and a troublesome weed is this plant, for it is found in

almost every cornfield, from May to September, and in some fields seems almost as abundant as the corn itself. Those who are at all observant of wild flowers recognise it at once, by the shape of its beaked fruits. The flowers grow in small umbels, and are white; and one would not suppose, from their size, that they could produce the bunches of long, sharp-pointed fruits, which we may often see at the same time on another part of the plant. These fruits are bright green, some of them two or three inches long, and sharp enough to merit the names applied to the plant, of Shepherd's-needle, Pucker-needle, and Venus's-comb. The plant is from three or four inches to a foot high, of uniform bright green colour. It is quite wholesome, and was formerly used as a pot-herb. It is supposed to be the same species as that which the ancient Greeks used as food.

34. Anthríscus (Beaked Parsley).

1. *A. sylvéstris* (Wild Beaked Parsley).—*Stem* hairy below, smooth above, swelling a little below each joint; *leaves* twice pinnate; *leaflets* pinnatifid; *fruit* linear, beaked, and smooth. Plant perennial. This is the first of all our umbelliferous plants to lend its white umbels to grace the hedges or field-borders. As early as the end of March the flowers appear, their clusters drooping at first, but afterwards becoming erect. The stem is three or four feet high, furrowed and branched, and having many leaves. The whole plant is somewhat aromatic, and is eaten in some parts of the kingdom, where it is called Wild Chervil; but being a favourite

food of rabbits, it is more frequently gathered for their use than for that of man. It is not unfrequent, and it continues in flower till June, when its oblong fruits with very short beaks may be seen, and the foliage has assumed the dark somewhat dull green which the plant has when fully grown. It affords good herbage for cattle, and is a favourite food of kine. Though the foliage is wholesome for man, yet the roots are poisonous, and when they have been eaten as parsneps have in some cases proved fatal. Professor Burnett remarks, that it is a plant of good omen, for, as it will grow only on rich ground, it is an index of the nature and condition of the soil. The flowers give a good yellow dye, and the leaves afford a bright green tint.

2. *A. Cerefólium* (Garden Beaked Parsley, or Chervil). —*Stem* hairy above the joints only; *umbels* lateral and sessile; *leaves* thrice pinnate; *leaflets* pinnatifid; *fruit* large, linear, smooth, with a beak about half its length. Plant annual. The white flowers of this plant appear from May to June. It is not truly wild, though growing in many hedges in this kingdom, and in the neighbourhoods of gardens. It was once much esteemed as a pot-herb, and was also used for salads, and to give flavour to soups. The stem of the Chervil is slender, about a foot or a foot and a half high, and the whole plant is very delicate and graceful, and of pale yellowish green. It is the *Cerfeuil* of the French; the *Kalberkropf* of the Germans; the *Kervel* of the Dutch; the *Cerfoglio* of the Italians.

3. *A. vulgáris* (Common Beaked Parsley).—*Umbels* stalked, opposite the leaves; *stem* smooth; *leaves* thrice

1 ROUGH CHERVIL
Chærophyllum
2 HAIRY FRUITED
3 SMOOTH-LEAVED
Caromaticum
4 SWEET CICELY
Myrrhis odorata
WILD CARROT

pinnate; *leaflets* pinnatifid; *fruit* rather large, egg-shaped, and bristly, with a short smooth beak. Plant annual. This wild Chervil has some general resemblance to the Sweet Chervil of the garden, though its stem is taller and thicker, and swelled beneath each joint. It is more often found near towns and villages than elsewhere, and is not uncommon on waste places and by road-sides. The small white flowers expand in May and June. The foliage is considered unwholesome, and is said, by its resemblance to the garden Chervil, to have misled some Dutch sailors who were in England in 1745, and who, having put it into soups, were rendered ill by its use, while to some of their number it proved fatal.

35. Chærophýllum (Chervil).

1. *C. temulèntum* (Rough Chervil).—*Stem* round, rough, and spotted, swelling below each joint; *leaves* broadly oblong, pinnatifid, with spine-tipped segments. Plant biennial. The tall stems of this plant, often attaining the height of three feet, render it very conspicuous in hedges and among bushes during June and July. The umbels of flowers are white, and at first drooping, and the short beaks of the fruit, in this as well as the other species, procured for it its French name of *Cerfeuil à fruits courts*. The Germans call the plant *Ranke kerbel*, and it is the *Wilde Kervel* of the Dutch. This herb is said to possess very dangerous properties, and when eaten to produce giddiness. A species of this Chervil (*C. bulbósum*), which we are accustomed to consider deleterious, but which is sometimes found in our

gardens, is, however, used in safety in cookery by the Kalmucs, and the root is eaten in its uncooked state. This people consider the plant as affording a nutritious and excellent food, but it is likely that climate affects its properties.

2. *C. aúreum* (Tawny-fruited Chervil).—*Stem* swelling below the joints, rough; *leaves* thrice pinnate; *leaflets* pinnatifid. Plant perennial. Sir Wm. Hooker and Dr. Arnott remark of this plant, "The leaflets are peculiarly attenuated, at least on the upper leaves, for the radical ones are more obtuse in character, which distinguishes this from any other British plant." The stem is from three to four feet high, angular and spotted, and the umbels of white flowers appear in June. It has been found in fields near Montrose, and at Corstorphine, Edinburgh, but is a doubtful native. It has an aromatic odour.

3. *C. aromáticum* (Broad-leaved Chervil).—*Leaves* twice pinnate; *leaflets* undivided, serrated, and tapering to a sharp point; *root* perennial. This plant, which grows to the height of about two or three feet, was seen by Mr. Don at the side of the river Lunan, near Guthrie, in Forfarshire. It is probably not truly wild, as it cannot now be found.

36. Mýrrhis (Cicely).

1. *M. odoráta* (Sweet Cicely).—*Leaves* somewhat downy beneath, very large, and thrice pinnate, with pinnatifid leaflets; *leaflets* of the partial involucres long and pointed. Plant perennial. This is perhaps not

a truly wild plant, for it is usually found near houses, where it may have grown in gardens. It was called also Sweet Chervil, and praised because it had, "besides its pleasantness in salads, great physicall virtues." The old herbalists described it as "so harmless, that you cannot use it amiss;" and told that its root was held as "effectual as that of Angelica to preserve from infection in the time of the Plague." These roots boiled and eaten with oil and vinegar were regarded as tonic. The whole plant is aromatic, and the root very powerfully so. Parkinson remarks, "This herbe is much used both by the French and Dutch, who doe much more delight in herbes of stronger taste than the English doe. It is sowne early, and used but a little while, because it quickly runneth up to seede. Sweete Chervil, or as some call it Sweete Cis, is so like in the taste unto anise seede, that it much delighteth the taste among other herbes as a sallet. The rootes likewise are not onely cordiall, but also held to be preservative against the Plague, either when greene, dryed, or preserved with sugar"

The odour of the foliage of this plant is certainly very agreeable, though we doubt if the root "made into tarts" would please modern palates. The Germans yet use the seeds very generally in cookery, and in the North of England they were some years since used to polish oaken floors and furniture; but oaken floors are gradually disappearing now, and hence the plant is altogether in less request. The large fruits are sometimes nearly an inch long, dark brown, and extremely fragrant.

The Sweet Cicely occurs frequently in pastures at the

North of England, and in the Lowlands of Scotland. The stem is two or three feet high, the umbels terminal, and composed of numerous white flowers, which are produced in May and June: the upper surfaces of the leaves are bright and glossy.

* * * * * * * *Fruit not beaked, clothed with prickles, or with a prickly involucre.*

37. Daúcus (Carrot).

1. *D. Caróta* (Wild Carrot).—*Leaves* thrice pinnate; *leaflets* pinnatifid, segments narrow and acute; *prickles* of fruit slender, mostly distinct and spreading. Plant biennial. Scarcely one of the Umbelliferous tribe, common as some of them are, is more frequent than this plant in our hedges, field-borders, and meadows. Its beautifully cut leaves, which in spring are of a most tender green, are very elegant as they unfold in May on the sunny bank, and in autumn are tinted with a golden hue, or reddened into purple or crimson. The umbels of the flowers stand, during June and July, on a stem a foot or more in height. They are white, more or less tinted with pink, but having one peculiarity which renders the wild Carrot's blossom easy of recognition. The central flower of the umbel is of dark purplish red, and though this often falls early, yet in the first stage of the flower it is in most cases present. The umbel when in fruit is usually remarkably concave, and naturally enough suggested one of the familiar country names of the flower, Bird's-nest. A bird's-nest literally we know it cannot be, yet it is often the nightly

dormitory of a species of bee, that folds its weary wings, and slumbers in the well-sheltered hollow afforded by the long stalks of the umbel, which, especially in damp weather and during night, coil inwards at the top, and would well exclude the shower or dews. The root is pale yellow, and we have never seen it of the bright orange hue of the garden Carrot, though its odour is so like that of the well-known vegetable, as to leave no doubt of its affinity with it. Tough as this root is in its wild state, it is by most botanists believed to be the origin of the cultivated Carrot, and the latter may be cited as one of the many instances of the singular improvement wrought by care and skill on a wild and apparently useless root. It cannot be considered, however, as absolutely certain that the two plants are identical, for Miller and some other horticulturists have planted the wild Carrot, and after taking much pains to change it into the esculent root, have been unable to do so.

The Carrot is supposed to be the *Staphylinos* of Dioscorides, and, like other plants named by the ancients, has been the subject of some learned discussions. The description of the plant given by the Greek physician corresponds in every respect with the Carrot, and he remarks that the root not only grew wild, but was cultivated as an esculent. He describes it, too, as bearing umbels of white flowers, which are in the middle of a purple red, or almost saffron-red colour. The Greeks called it also *daucus*, and that earliest writer on cookery, Apicius, terms the plant *Carota*, but many writers think that the *Pastinaca* of the Greeks was the Carrot. It

was from the ancient name of *Carota* that the French *carrotte*, the Italian *carota*, and the English Carrot were derived. The Spaniards call the plant *Zanahoria;* the Dutch, *Peen;* and *Möhre* is a common name for the plant in Germany. Beckmann is of opinion that though the Greeks and Romans were certainly acquainted with our Carrot, they used it far less both in cookery and as fodder for cattle than the moderns do, which would account for its not very frequent mention in their works.

We owe to the Flemings chiefly the use of the Carrot as an addition to our vegetable diet, and in early periods they seem to have been among the best of European horticulturists. When the tyranny of Philip II. drove many of his subjects from their homes, in the time of our Queen Elizabeth, a large number of the Flemish refugees came and resided in England. Some of them finding the soil about Sandwich, in Kent, well suited for the growth of the Carrot, soon cultivated the vegetable, which had been introduced a few years earlier, and the new edible at once recommended itself by its flavour and nutriment, and became a general plant of the kitchen garden; while many varieties, produced by climate and culture, soon became well known to gardeners. The long and horn carrots, the two kinds generally grown, form several sub-varieties, which differ chiefly in the size and colour of the root. The red, or large field Carrot, is sown mostly in fields for cattle; but the more delicately flavoured kind, termed the Orange Carrot, though not so productive, is better fitted for the table, and is usually sown in gardens. There are

also white, yellow, and purple rooted varieties of the Carrot. Their size differs much according to soil and culture, but Carrots have been known to measure two feet in length, and from twelve to fourteen inches in circumference at the thickest part of the root. Michael Drayton, in the "Poly-olbion," gives us a list of the choicest vegetables in use in his day, and classes the Carrot among them:—

"The colewort, colliflower, and cabbage in their season,
The rouncefall great, beans, and early ripening peason;
The onion, scallion, leek, which housewives highly rate,
Their kinsman garlic, then the poor man's Mithridate;
The savoury parsnep next, and carrot, pleasing food,
The skirret, which, some say, in salads stirs the blood;
The turnep, tasting well to clowns in winter weather,
Thus in one verse we put roots, herbes, and fruits together:
The great moist pompion then, that on the ground doth lie,
A purer of this kind, the sweet musk mellon by,
Which dainty palates now, because they would not want,
Have kindly learnt to set, as yearly to transplant."

Sheep, horses and cows are very extensively fed upon carrots; poultry thrive well on these roots, and in some severe winters they have proved very useful food for deer. They contain a greater portion of saccharine matter than can be found in any of the Cerealia, the dried carrot yielding an eighth part of this substance in combination with starch. This quantity of sugary substance has induced experimentalists to endeavour to make sugar from the root, but without success, as it would not form crystals.

The wild Carrot is in flower in June and July, and the blossoms are succeeded by the rough bristly fruits.

The hairs on their surface are so forked and numerous, that the separation of the carpels, in order to get at the seeds, is a work of difficulty, as they adhere so very closely. The leaves are sometimes a foot long, and so graceful, that we wonder not that in the time of James I., when the plant was rare, the courtly dames wore the tasteful plume in halls and palaces. Few leaves, indeed, are more elegant; and a writer on "Vegetable Substances" remarks, "If in the winter a section be cut from the end or thick part of the carrot, and this be placed in a shallow vessel, containing water, young and delicate leaves are developed, forming a radiated tuft, the graceful and verdant effect of which make it a pleasing ornament for the mantel-piece in that season, when any semblance of vegetation is a welcome relief to the eye."

The old herbalists applied the carrot leaves to wounds, and considered a decoction good for the dropsy, preferring the wild to the garden roots.

2. *D. marítimus* (Sea-side Carrot). — *Leaves* thrice pinnate; *leaflets* pinnatifid, with rounded segments; *root* biennial. This plant, which is usually shorter and thicker than the common Carrot, is probably but a variety of it. It differs from that in having broader and more fleshy root-leaves, and shorter prickles on its fruits. The flowers are usually white, though in some cases tinged with red; and in one variety of the plant the petals are fringed, and of greenish yellow. It blooms in July and August, and the umbels, when in seed, are either convex or flat.

38. Caúcalis (Bur Parsley).

1. *C. daucoídes* (Small Bur Parsley).—*Leaves* twice pinnate; *leaflets* pinnatifid, with narrow acute segments; *umbels* of few rays; general *involucre* none; partial *involucre* of about three leaves. Plant annual. This is well named Bur Parsley, for the large oblong fruits, beset with prickles, are truly burs, clinging very readily to any object near them. This is a low plant, the stem often about three or four inches, though sometimes twelve in height. It occurs in chalky corn-fields, but is somewhat rare. Its deeply furrowed stems are hairy at the joints, and it bears, in June, both terminal and lateral umbels of small reddish white flowers. It is a troublesome weed in cultivated lands, being of no service to man, and unfit for pasture. The French call the Bur Parsley *Caucalide*; the Germans, *Haftdolde*; the Dutch, *Doornzaad*. It is the *Caucali* of the Italians, the *Caucalide* of the Spaniards, and the *Beterluus* of the Danes.

2. *C. latifólia* (Great Bur Parsley).—*Leavés* pinnate, running down the stem, coarsely serrated; *involucres* membranous; *fruit* very rough, with prickles; *root* annual. This rare plant is a doubtful native of corn-fields on a chalky soil. It is occasionally found in Cambridgeshire, and even an unpractised botanist would detect it by its showy pink flowers, and the large oblong prickly fruits which succeed them. The stem is about one or two feet high, and very rough; the leaves broad, and little divided. It is in flower in July.

39. Torílis (Hedge Parsley.)

1. *T. Anthríscus* (Upright Hedge Parsley).—*Leaves* twice pinnate; *leaflets* oblong, deeply serrated; *umbels* terminal and stalked; partial *involucres* of many leaves; *root* annual. This is a tall slender plant, with a stem two or three feet high, solid and rough. The leaves are hairy, and the flowers, which appear in July and August, are small, and either white or of a pinkish hue. The fruit is thickly covered with bristles, which are not hooked. It occurs on hedge-banks and field-borders.

2. *T. infésta* (Spreading Hedge Parsley).—*Leaves* twice pinnate; *leafllets* cut and serrated; *umbels* stalked, terminal; general *involucre* none, or of one leaf, partial of a few awl-shaped leaves; *fruit* with spreading hooked prickles. Plant annual. The specific name given to this Hedge Parsley might apply to all the plants in the genus, for they are all useless and "troublesome," abounding in fields and waysides. This species is much smaller than the last, its branched stem being from six to eighteen inches in height, and the foliage very rigid. The prickles form a thick mass on the fruits. The plant is very common in fields or on waste places.

3. *T. nodósa* (Knotted Hedge Parsley).—*Stem* prostrate; lower *leaves* twice pinnate, upper ones pinnate; *leaflets* deeply and uniformly pinnated; *umbels* nearly sessile, and lateral. Plant annual. This very common species, in hedges and waste places of chalky soil, is distinguished from the others by its prostrate mode of growth, and the small almost globular umbels of red and white flowers, which, from May to July, are almost

seated upon it. It takes its specific name from the little knots or warts which are often on the inner fruits of the umbel, the outer ones being covered with hooked bristles.

40. Echinóphora (Prickly Samphire).

1. *E. spinósa* (Sea-side Prickly Samphire).—*Leaves* pinnate; *leaflets* pinnatifid, with spinous, entire, awl-shaped segments. This singular prickly plant formerly grew on some parts of the sandy shores of Kent and Lancashire, but is now apparently lost. The perennial roots are said to taste like those of the Parsnep, with some flavour of salt, and are thought to possess a stimulating quality. It is sometimes called Sea Parsnep.

Order XXXIX. ARALIACEÆ.—THE IVY TRIBE.

Calyx 4—5 toothed, attached to the ovary; *petals* 4—16, rarely wanting; *stamens* equalling the petals in number, or twice as many, inserted on the ovary; *ovary* with 2 or more cells; *styles* as many as the cells; *fruit* fleshy or dry, of several cells, each containing one seed. This is nearly allied to the Umbelliferous Tribe in the structure of the flower, but differing both in the nature of the fruit and in properties, the Order containing none which are deleterious. The Ivy and the Adoxa are the only British genera, but the famous *Ginseng* of the Chinese, the *Panax*, whose very name signifies "universal

remedy," belongs to it. This plant is used in almost every medicine taken by the Tartars and Chinese. Osbeck says that he never looked into the apothecaries' shops but they were always selling Ginseng; that both rich and poor used it constantly, boiling half an ounce in their tea and soup every morning, as a remedy for consumption, and other diseases. The physicians of China have written volumes on its medicinal powers, stating, that it gives immediate relief in extreme fatigue, either of body or mind. Yet European physicians can detect in this root very little of those qualities which would ensure its efficacy as a medicine.

1. Adóxa (Moschatell).—*Calyx* 3-cleft, inserted above the base of the ovary; *corolla* 4 or 5-cleft, inserted on the ovary; *stamens* 8 or 10, in pairs; *anthers* 1-celled; *berry* 4 or 5-celled. Name in Greek signifying, without glory, from its humble appearance.

2. Hédera (Ivy).—*Calyx* of 5 teeth, inserted in the ovary; *petals* 5—10; *stamens* 5—10; *styles* 5—10, often combined into one; *berry* 5-celled and 5-seeded, crowned by the calyx. Name, the Latin name of the plant.

1. Adóxa (Moschatell).

1. *A. moschatéllina* (Tuberous Moschatell).—*Leaves* from the root on very long footstalks, thrice ternate, lobed, and cut; *stem-leaves* 2, small and ternate; *root* white, fleshy, toothed, creeping, and perennial. It is pleasant, when spring is just coming on, to stroll away to the hedge-banks and inhale the odour of green leaves, and

1. TUBI[illegible]
Adoxa moschatellina
2. COMMON IVY
Hedera Helix
3. WHITE DOGWOOD
Cornus sanguinea
4. DWARF CORNEL
Cornus suecica
5. MISTLETOE
Viscum album

primroses, and violets, and to look for the Moschatell, which will need looking for among the dried leaves of last year, and the budding leaves of this. Bishop Mant describes the place in which we may find it:—

> "There, in the hollow lane, whose sides
> The native rock o'erarching hides,
> While from its moss-green fissures well
> The trickling drops, the Moschatel,
> Peep'd meekly from her rocky bed."

It has been said by another poet that—

> "Adoxa loves the green-wood shade;"

and it is usually in some shady nook of wood or hedge-bank that we find the delicate little flower. The foliage is of a pale green, and the flower is tinted somewhat like the leaf, but somewhat more yellow. The blossoms grow in terminal heads of five each, the upper one with four petals and eight stamens; the four flowers surrounding it having five petals and ten stamens each; the stamens are remarkable for being inserted in pairs, and for bearing one-celled anthers.

We used, in early days, to call this "Good-Friday Flower," for, whether that day fell late or early in spring, this plant would be in blossom, as it is so from the latter end of March till the middle of May. It has several rustic names, as Glory-less, Bulbous Fumitory, Hollow-root, and Musk Crowfoot. The musky odour to which it owes its last name is most perceptible in the evening, a circumstance which, the author has remarked, seems common to all those of our wild flowers which

smell of musk, and which is more distinctly observable in some others, as the Musky Heron's-bill, and the Musk Mallow. The French call the flower *Moscatelline*, the Germans *Bisamkräutchew;* the Dutch term it *Muskuskruid*, and the Italians, Spaniards, and Portuguese, *Moscatelina*. It seems common among bushes and trees in most European countries, and is the *Desmerurt* of the Danes, and the *Desmansört* of the Swedes. Sir William Hooker remarks, that it is not unfrequent at a great elevation, and even near the tops of the Highland mountains. The following lines were written by Mr. F. A. Paley, for this volume:—

"THE FIRST SPRING FLOWERS.

"When dreary March has pass'd away,
Give me by sunny bank to stray;
A bank whose southern aspect gleams
From morn to eve with spring's first beams,
Secured from frost and breezes keen,
By sombre yew's impervious screen,
Or back'd by woodland's sheltering shade—
A peaceful and a lonely glade,
And sloping to a streamlet's side,
Where heard, not seen, the waters glide.

"Here bounteous Nature loves to fling
The treasures of the opening spring,
Where no rude wanderer hastes to tear
The first form'd flow'ret of the year,
But every plant that cheers my eyes,
Unharm'd, yet not unnoticed dies.
Now, peering from its leafy bed,
The earliest primrose rear'd its head,
With violet buds, a fearless few,
Full many a week ere buds were due.
Foremost to deck the sun-warm'd soil
The Arum shows her speckled coil;

Or glossy leaves of Blue-bell rose
Impatient from their long repose.
Trim Mercury might there be seen
With undevelop'd spikelets green;
Or gaily glittering from afar
The spangled Pilewort's burnish'd star;
Now tempted by the warmer glow
The tender Starwort dares to blow;
Anemone with pensive bell,
And tufts of scented Moschatell;
Veronica, whose eye of blue
Mingles with Coltsfoot's golden hue;
And Daisy,* with expanded ray,
Fit emblem of the opening day.

"The Whitethorn branches overhead,
Their showers of tiny petals shed;
A second snow, when snows are past,
And balmy airs are come at last.

"Through all the vale, above, around,
The skies with merry notes resound;
The wren and robin, roving free,
Sing to the sunshine cheerily,
No longer hid beneath the thorn,
Nor crouching in the lanes forlorn.

"So spend an hour, and you shall prove
That 'tis an easy thing to love,—
Love birds, love flowers, love Nature gay,
Love Him who made the April day."

2. Hédera (Ivy).

1. *H. Hélix* (Common Ivy).—*Leaves* egg-shaped, or heart-shaped, with from 3 to 5 angular lobes; *umbel* simple, erect, downy. Plant perennial. The large

* Day's eye.

masses of green ivy on some of our old walls or lofty trees are among the most picturesque objects of the landscape, and afford continually to the artist and poet some grace of form or colour, or some interesting association.

There are few of us who cannot recal some ancient church or castle, or mouldering arch, or patriarchal tree, covered more or less with its beautiful verdure; and many have seen old trunks of ivy which must have been the growth of centuries. Such is the Ivy which grows around an old Ash-tree near the ruins of Fountains Abbey, with its trunk three feet two inches in girth; such is that Ivy which grows against a broken wall of the ancient Richborough Castle, in Kent, within whose enclosure the Gospel was preached in times of Pagan darkness. Amid these decayed remnants of grandeur the old Ivy is still verdant, and while its aged trunk seems almost embedded in the masonry, its branches spread far and wide, and with their bright though dark green canopy shelter the song-birds, which sing as gladly now as they did in the time of that old castle's pride. Of many an ancient abbey we may say, in the words of Robert Nicholls:—

"The ivy clings about the ruin'd walls
Of cell and chapel, and refectory;
An oak-tree's shadow, cloud-like, ever falls
Upon the spot where stood the altar high;
The chambers all are open to the sky;
A goat is feeding where the praying knelt;
The Daisy rears its ever open eye
Where the proud Abbot in his grandeur dwelt,
These signs of Time and Change the hardest heart might melt."

It is likely that the Ivy often, by its shelter, and by the strong framework of its branches, supports the ancient edifice, and prevents its entire destruction. To it we doubtless owe all that now remains of those strong walls reared by our forefathers in their fortresses and monastic institutions. Yet buildings of later years and less solid materials have often been injured by its climbing, for it penetrates into their looser structure by its roots, which force their way into crevices, and rend away gradually the materials which are bound by the mortar. Both Mr. Loudon and Dr. Lindley consider that its growth by the side of a well-built house is rather beneficial than otherwise, as it keeps the walls dry. "Ivy," says the latter writer, "may render a house damp by retaining snow in winter, which changes to water, trickles down the walls, and never thoroughly evaporates. But this is of rare occurrence, and may be prevented by beating the ivy after snow-storms, and will only be found an inconvenience when houses are built with mud. No doubt, when walls are not of sound brick-work, or of some other hard materials, the Ivy may introduce its roots into the masonry, and thus do mischief, allowing water to run down its branches, and to follow them into the crevices where they have insinuated themselves; but in all cases of well-built houses we are convinced that Ivy is beneficial, so far as keeping the walls dry." Assuredly the Ivy, with its glossy verdure, never falling into the sere and yellow leaf, is a great addition to the beauty of a building. Those, too, who love the songs of early birds, of the cheerful robin or wren, of merry thrush or whistling

blackbird, may rejoice in thinking how that well-clad bough shelters the young nestlings before their wings are fitted for flight, or their voices for song. Thrushes, fieldfares, blackbirds, and wood-pigeons, prize the chocolate berries, which are fresh and juicy when haws and hips, blackberries and fruits of the mountain-ash, have passed away. True it is that the ivy-bough sometimes shelters the owls, which may scare away our sleep by their strange and mournful tones; true it is that the spider weaves its tracery among it, and sometimes finds its way into the open windows; but on the other hand, what a store of honey do its flowers supply to bees and butterflies, when all flowers, save themselves, are dying, or dead, and when the insect world will soon perish by cold or hunger, or wait, under other forms, the reviving influence of spring! Late in the year myriads of flies resort to the Ivy cluster; and hovering about these blossoms, on brilliant wings, may be seen the Red Admiral butterfly, and the Painted Lady, and many a less showy but not less beautifully formed and tinted insect, from the sober and busy bee, to the golden hornet, or the gauzy fly.

But beautiful as the Ivy may be over ancient chapel or modern dwelling, yet its own picturesque grace is more distinctly seen when the plant climbs to the summit of the aged tree, sending out its sprays to garland every bough. Few objects can be more beautiful than an ivy so situated, especially if some more light and delicate green foliage, belonging to the tree around which it twines, falls down among its dark festoons. When time has stripped the tree of its own leaves, or winter

winds have scattered them, then too the dark, white-veined leaves are very beautiful, and no lover of scenery can fail to mark this decoration. The leaves vary much in form at different periods of the growth of the plant. When young they are three or five-lobed, strongly veined with white, while a degree of redness often tinges both leaf and stem. As the plant grows older the shape of the leaf differs, often becoming less lobed, and the green hue is brighter, and more glossy. The plant creeps along, and from the lower part of its stem sends out tufts of roots quite different from the tufted fibres by which it clings to a wall or trunk of a tree. The Ivy does not merit the charge of being a parasite. It is not—

> "The Ivy which had hid the princely trunk,
> And suck'd the verdure out on't."

Its fibres are not true roots; they are not like the roots of the Mistletoe; they take no nourishment from the plant on which they hang; but it only supports its weakness by clinging to its stronger neighbour. In this respect the lines of Calder Campbell on the Ivy are true:—

> "They blame me, they blame me,
> Who understand me not;
> They say I suck the green bough's blood
> Till all its leaflets rot:
> They say my roots beset the bark
> Until 'tis little worth;
> 'Tis but my tendrils that cling there,
> My roots are in the earth."

Many timber trees covered with Ivy attain a large size, yet we cannot say of the plant that it is not injurious to some of the trees which sustain it. There are many cases in which the ivy band clasps too closely, and both prevents the further growth of the tree and injures it by indenting its bark. The Rev. W. T. Bree communicated, some years since, to a scientific journal, some facts relating to the fall of an aged Ash, which sufficiently prove the power of the Ivy to injure. This tree had, apparently, at some period been pollarded early, or lopped at about eighteen feet from the ground, and at that time the trunk had for many years been partially hollow, and in a state of decay. It retained its hold in the earth by one large branch only of its roots, aided by the stem of the Ivy, which was nearly a foot in diameter, and which, springing up directly on the opposite side, clasped the trunk, and acted as a prop to keep it in an erect position. "Moreover," says Mr. Bree, "the Ivy towards the very top of the tree formed so large a head of massive and persistent foliage, as to occasion the wind to have additional power against it, and cause the vessel, as it were, to carry too great a press of sail. In order to give some idea of the magnificence of this individual specimen of Ivy, the finest perhaps, on the whole, out of many extraordinary fine ones on the premises, I may mention that the men employed to cut up and clear away the windfall calculated that there was at least enough of the evergreen to form a good waggon load or more, which now, alas! served no better purpose than to feed the sheep, to whom the shrub affords a favourite and wholesome repast." This tree

afforded incontestable proof of the injurious effects of the close pressure of the Ivy; for its stems were tightly laced and plaited together, and in some places literally tied in hard knots around the smaller branches of its foster parent. The effects were to be seen in the deep weals or indentures imprinted on various parts, not merely of the trunk, but of the solid wood of the tree itself; and the foliage had in consequence become very scanty, though portions hung still among the sable mass of ivy in light and airy festoons. Mr. Bree adds, that he has seen such palpable injury produced by ivy upon timber trees, that even putting aside the *à priori* probability of the case, as well as the testimony of antiquity, he cannot but be greatly surprised that a contrary opinion should ever have been seriously entertained. Though the Ivy takes no nutriment from the tree by its tendrils, yet the root at its base must impoverish the soil by imbibing its moisture, and the dense covering, though affording some winter shelter, yet would serve to deprive the tree of some of that light and air which one would suppose must be beneficial to it.

Few have noticed the aspects of nature and vegetation more accurately, few have loved them better, or written of them more pleasantly, than Bishop Mant. His beautiful volumes on the Months commend themselves to all naturalists and botanists by their truth, while the generous and tender sentiment, and the tone of elevated piety which breathes throughout, must make them interesting to a large class of readers. Referring to the subject of our present remarks, Bishop Mant says,—

"Its verdure trails the Ivy shoot
Along the ground from root to root;
Or climbing high, with random maze,
O'er elm, and ash, and alder strays;
And round each trunk a network weaves
Fantastic, and each bough with leaves
Of countless shapes entwines, and studs
With pale green blooms and half-form'd buds.
The Ivy, of our native flowers
That now among the latest pours
Its pale-green bloom, and ripes its seed
Of black and shining balls to feed,
Impervious to the winter's frost,
The little birds' afflicted host;
The Ivy, fairest plant to seize,
And promptest, on the neighbouring trees,
O'er bole and branch, with leaves that shine
All glossy bright, tenacious twine,
And the else naked woodland scene
Clothe with a raiment fresh and green.
Fair is that Ivy twine to see!
But as ye love the goodly tree,
O rend away the clasping wreath,—
'Twill pay the kind support with death.
Ah, that beneath such semblance fair
Should lurk conceal'd such deadly snare!"

The Ivy was regarded by Pliny as very injurious. He remarks that it injures plants wherever it clings to them, that it breaks sepulchres of stone, and undermines city walls.

The Ivy is truly a climbing plant, sending its shoots upwards so long as they can find a place to which they can attach themselves. When, however, it can find no further support, it then forms tufts of foliage at the summit, and becomes a roundish mass of verdure, putting forth neither rooting fibres nor creeping stems;

and its very leaves, changing their usual form of lobed edges, become either broad or narrow, with almost entire margins. Ivy bushes about four or five feet high may thus often be seen in the hedge, deriving little or no support from the plants near, and though beautiful for their evergreen hue, yet the plant seems to lose all its graceful form under these circumstances.

The small yellowish-green flowers of the Ivy, with their minute calyx-teeth, may be seen in clusters on the plant during November and December. The leaves, though so well liked by sheep, and fed on by deer, have a bitter flavour. Old physicians recommended a decoction made from them as a sudorific; and an infusion of the berries in vinegar was one of the numerous medicines recommended to be taken against those severe epidemic diseases which have disappeared since cleanliness and ventilation have received more attention in great cities. An old writer says,—"The berries are a singular remedy to prevent the plague, and also to free them that have got it, by drinking the berries thereof made into powder, for two or three days together; the leaves, applied with rose-water and oil of roses to the temple and forehead, easeth the headache, though it be of long continuance." He adds, too, that those who are troubled with the spleen shall find much ease by the continual drinking out of a cup made of ivy, so as the drink may stand some time therein before it be drunk. He gives for this one of those reasons which seem to have been more convincing to the men of those generations than to modern judgments. "Cato," he says, "saith that wine put into the ivy cup will soak

AGRICULTURAL LIBRARY
UNIVERSITY OF CALIFORNIA
CITRUS RESEARCH CENTER AND
AGRICULTURAL EXPERIMENT STATION
RIVERSIDE, CALIFORNIA

through it, by reason of the antipathy that is between them; this antipathy being, as he says, very great between wine and ivy, for that one who hath a surfeit by drinking wine will find his speediest cure if he drink a draught of the same wine wherein a handful of ivy leaves had been steeped." The chief worth of this potion, we should imagine, would be that the bitterness of the ivy might serve to give a disgust to the wine, and prevent a speedy return to the wine-cup.

Pliny had said, many centuries earlier, that ivy berries taken before wine prevented its intoxicating effects; and the bacchanalian fillet of ancient times, as well as the later use of the Ivy bough as the sign of a tavern, were both doubtless founded on some of these notions respecting the effect of the plant. Sir Henry Ellis, in his notes to "Brande's Antiquities," brings several passages from old writers to prove that, a few centuries since, Ivy hung over a door signified that wine was sold within. An allusion to this old custom is pleasantly made by Braithwaite in his "England's Parnassus," published in 1600,—

"I hang no ivy out to sell my wine."

And in Vaughan's "Golden Grove" the following passage occurs:—"Like as an ivy bush put forth at a vintrie is not the cause of wine, but a signe that wine is to be sold there; so likewise if we see smoke in a chimney we know that fire is there, albeit the smoke is not the cause of the fire." Coles, in his "Introduction to the Knowledge of Plants," says, "Box and Ivy last long green, and therefore vintners make their garlands

AGRICULTURAL LIBRARY
UNIVERSITY OF CALIFORNIA
CITRUS RESEARCH CENTER AND
AGRICULTURAL EXPERIMENT STATION

thereof; though, perhaps, Ivy is the rather used because of the antipathy between it and wine." The Ivy is still used because of its evergreen nature in dressing churches and houses at Christmas; and that it has long been so employed is certain from an old Christmas carol in the British Museum, in which the respective merits of this plant and the holly are compared.

"Ivy hath berys as black as any slo;
There come the owle, and ete hem as she goo:
Holy hath byrdys, a full fayre flok,
The nightingale, the poppyngy, the gayntyle lavyrok."

The ancients generally had so great an esteem for the Ivy, that we wonder not at the disappointment of Alexander the Great, because he could not make the Ivy of Greece grow near Babylon. It was consecrated to Apollo; Bacchus had his brows and spears decked with its leaves; and the people of Thrace wore it garlanded about their armour. The Ivy crown was the meed of the poet, and wreaths of Ivy were presented by the priests of Greece to the newly married couple—meet emblem as it was of undying love, amid the ravages of time and the blasts of adversity. Modern physicians recognise in the plant none of those properties which it was believed to possess, but consider the berries as emetic. In the south of Europe and north of Africa, an exudation is found on the old trunks of the Ivy, called ivy gum, which is found to be stimulant, and is sometimes substituted for Gum Bassorah. It is used as a remedy for toothache, and contains more resin and lignum than gum. Walker says of the resin which

exudes from some of our old ivy stems when wounded, that it renders bait attractive to fish. Thin slices of ivy wood are used in filtering liquids, and the roots are employed by leather-cutters for sharpening their knives.

The Ivy is confined to temperate regions, and is more or less common in all the countries of Europe. The French call it *Lierre*, the Germans *Epheu*, and the Dutch have for it the amusingly expressive name of *Klimop*. The Italians call it *Edera*, the Spaniards *Hiedra*. It is not indigenous to Russia, but is called there *Bljustsch*. Mr. E. P. Thompson, in his "Life in Russia," speaking of the love of the people of that nation for flowers, says, "They decorate their houses with them, and nurse them throughout the winter with the greatest solicitude. Ivy is made to serve a pretty and ornamental purpose in their drawing-rooms. They contrive a little frame of light lattice-work on wheels, over which the Ivy is made to twine, forming a pleasant and refreshing-looking arbour, under which the lady of the house ensconces herself in a kind of rural retirement."

But it is in Germany chiefly that the Ivy is used as a most lovely and graceful decoration to dwellings. In England we consider it enough to let its wreaths hang about our walls; but in Germany, where in its wild state it is far less luxuriant than in our country, it is trained also about the walls of the interior of the house. Mrs. Howitt, in her "Art-Student in Munich," mentions that from the palace to the cottage, there is scarcely a room to be found which does not possess its ivy tree, and hardly a window to be seen in the street which is

not rendered a bower by the festoons of ivy. It trails around the bars of the window, makes a verdant background to bouquets of flowers placed in vases or flower-pots, and often wreaths its picturesque leaves around a small statue of the Madonna.

"A very pleasant little paper, I have often thought," says Mrs. Howitt, "might be written descriptive of the windows in a German street; and the mode in which the cherished ivy was trained would play a conspicuous part in it. You may read much of the character of the inmates of the dwelling by the ivy. Sometimes its leaves are dusty, and its growth is ungraceful, and its sprays untastefully trained; sometimes it grows in a gaudy flower-pot, or swings from the centre of a window in a hideously shaped *Blumen-lamp*—flower-lamp, as it is called—a kind of swinging vessel for plants very much in vogue here: but as a rule the ivy is gracefully, nay, most poetically trained; its *Blumen-lamp*, if it be planted in one, is often of a graceful rustic character, perhaps of red terra-cotta, with delicately moulded foliage of yellowish white clay meandering over it.

"But it is not alone in windows that you see the ivy trained. Ivy often forms a green and fresh screen across a room, being planted in boxes, and its sprays trained over rustic frame-work. Ivy often casts its pleasant shadows over a piano, so that the musician may sit before his instrument as within a little bower. Ivy may be seen adorning the shrine which hangs upon the wall, or dropping its sprays above the lady's work-table.

"The staircase in the house of a great painter here is

a complete little bit of fairy-land, thanks to his love of ivy, which festoons the balustrade of the polished oak stairs, and strews forth its kindly leaves among the rarer beauties of palms and myrtles which rise grove-like upon the landings! I know an apothecary's shop which is rather like a bit of a wild wood, from its growth of ivy, than a shop of physic. I was told the other day of a studio here equally sylvan; and I know an old cobbler who could not mend his shoes without seeing his ivy bush daily before him as he works."

The Ivy does not grow wild either in America or Australia, though common in some parts of Asia. In the Channel Islands it is an exceedingly luxuriant and beautiful plant, the trunks of the trees in Jersey being almost without exception covered with its wreaths, which not only add to their summer beauty, but soften the sterile aspect of the winter landscape, and give to the island a perpetual greenness. Nor is the luxuriance of the plant to be seen on the trees only. Wayside walls, and even sea rocks, are enriched by its verdure; and a mile or two out of the town of St. Heliers, there are cliffs against whose bases the waves dash wildly, yet whose slopes and summits are decked with evergreen masses of leaves, and which seem to a casual observer to be some ancient ruins, clad in the mantle which so often hides the time-rent wall.

Sometimes our ivy wreath twines into the darkness of some chasm in a building, becoming paler tinted as it recedes further from the light of day. We have seen an ivy branch so situated, in which all the leaves were of so yellow a tint, that the classic reader might have been

reminded by it of the *Hedera pallens*—the golden Ivy of Virgil. This plant appears, however, to have been the yellow-berried Ivy, the *Hedera chrysocarpa*, which is probably a variety of our common Ivy, with brighter and more yellow leaves. Mr. Dodwell, in his "Travels in Greece," mentions having found a fragment of a vase near Athens, which was ornamented with the ivy plant in relief, gilt. Most classical botanists consider that the Ivy mentioned in the Idylls of Theocritus was the *Hédera Hélix*. The Giant, or Irish Ivy, *H. vegéta*, is by some writers considered a distinct species, but most regard it but as a variety; it is a native of Madeira, and not of Ireland. An Ivy of Amboyna, *H. umbellífera*, is said to furnish a wood scented like rosemary or lavender. Miss Strickland relates that when last the coffin of Queen Catherine Parr was opened, a wreath of ivy was found entwining the temples of the royal corpse. A berry which had fallen there and taken root at the time of a previous exhumation, had silently, from day to day, woven itself into this green sepulchral coronal, and had wound about the brow where the rich golden hair had once clustered, and where noble thoughts had gathered, and our first Protestant queen lay thus adorned in her lone resting-place.

Order XL. CORNEÆ.—THE CORNEL TRIBE.

Sepals 4, attached to the ovary; *petals* 4, oblong, broad at the base, inserted into the top of the calyx; *stamens* 4, inserted with the petals; *ovary* 2-celled;

style thread-like; *stigma* simple; *fruit*, a berry-like drupe, with a 2-celled nut; *seeds* solitary. This is a small Order, consisting chiefly of trees and shrubs inhabiting the temperate regions of Europe, Asia, Africa, and America. It offers little to our gardens besides some of the Cornels, and the Spotted Laurel (*Aucuba Japónica*), which is a common evergreen plant there. The leaves form the chief beauty of this shrub, as the flowers, which are green without and purplish-red within, are small and inconspicuous.

1. Córnus (Cornel).—*Calyx* of 4 teeth; *petals* 4, superior; *stamens* 4; *nut* of the fruit with 2 cells and 2 seeds. Name from *cornu*, a horn, from its hard wood.

1. Córnus (Cornel).

1. *C. sanguínea* (Wild Cornel, or Dogwood).—*Branches* straight; *leaves* opposite, egg-shaped; *flowers* in flat cymes, without involucre. Plant perennial. When wandering along the country lanes very early in the year, while the trees of the wood and the bushes of the hedge are yet leafless, the twigs and branches of this plant are often very conspicuous. They are almost sure to be plentiful if the soil is of chalk or limestone, and we have sometimes seen the Cornel so abundant in Kent, that a wild hedge was, for a mile together, half composed of these boughs. Many of the branches were so red, so like twigs of coral, that its scientific specific name, and its name of Bloody Twig, by which it is still called, and which Pliny termed it, seemed appropriate though

unpleasing. It is also commonly called Dogwood, this name having been given, it is said, because the berries were not fit even for a dog; but it probably had some other origin, since Dog-berry and Hound's-tree were other of its old names, and it was also called Gaten-tree both by old herbalists and poets. Chaucer has the latter name for it. In France the Cornel is called *Le Cornouiller;* the Germans term it *Kornelbaum;* the Dutch *Kornæljeboom;* the Italians, *Corniola;* and the Spaniards, *Corniro.* The plant is known in Russia as the *Kuroslejepnik.*

Our wild Cornel is rather a bush than a tree, though by training it may be made to acquire the height of twenty feet. Its foliage is of somewhat dull green, the leaves strongly veined, and in autumn more or less tinged with dark purple or red. The white flowers are produced in June and July, and are succeeded by small berries, at first purple, but gradually becoming black. These berries are bitter and astringent, and abound in an oil, which in several parts of the Continent is expressed or extracted by boiling, and used both for burning in lamps and for cookery. They yield about a third of their own weight in oil; and M. Granier, in a paper addressed some years since to the Institute of France, stated that the cost of its extraction did not exceed four sous for a pound. The hard wood was once valued for pikes and javelins, though the "good and beautiful Cornus" of Virgil is by most writers thought to be another species, the Cornelian Cherry, *Córnus máscula.* There is some degree of astringency in the bark of our wild Dogwood, but it is not equal to that of

several North American species, which yield some of the best tonic medicines used in that country, and scarcely inferior to Peruvian bark. The compact wood of our tree is used for the manufacture of small articles, as arrows, skewers, tootpicks, and lace-bobbins, and the larger wood of some of the species found in other countries is serviceable for more important purposes. The burnt ashes of Cornel wood afford a good charcoal for gunpowder.

Our Cornel is well suited for plantations, thriving well under the dripping of trees, and several of the species are very ornamental to gardens and shrubberies. The White-fruited Dogwood (*C. alba*) is often to be seen there; and the Cornelian Cherry is a well-known and favourite tree. The twigs of this latter species have not the usual red tint of the Cornels, but are ash-coloured, and in early spring, when the little starry yellow flowers appear on the leafless boughs, the plant is very conspicuous. The fruit is like a small plum, but of red colour. Its flavour is harsh till it has hung some time on the tree, when it is pleasantly acid. It was once much more valued in the English garden than now, for ladies of olden times not only made the fruit into tarts, but prepared various articles of confectionary with it, and used it at dessert. Tusser, who wrote in Queen Mary's time, calls the fruit Cornet plum, and Lord Bacon termed it Cornelian. Gerarde says, "The male Cornell tree groweth in most places in Germanie without manuring; it groweth not wilde in Englande, but yet there be sundrie trees of them growing in the gardens of such as love rare and daintie plants, whereof

I have a tree or two in my garden." The Turks still use these fruits in sherbet. It is more likely to be this tree than the Red Cornel of which Virgil says in his "Georgics"—

> "The war from stubborn myrtle shafts receives,
> From Cornels jav'lins, and the tougher yew
> Receives the bending figure of a bow."

The berries of the Chilian Cornel are a favourite fruit with the natives of Chili, who make of them a sort of beverage, which they term Theca. It is a remarkable fact, that the bark of the young twigs of *Cornus florida* if rubbed upon the teeth renders them extremely white, and the Indians extract a good scarlet dye from the bark of its fibrous roots. Sir Charles Lyell remarks of this plant: "When I arrived in Virginia, in April, I found the woods everywhere enlivened by the dazzling white flowers of the Dogwood (*C. florida*), the average height of which somewhat exceeds that of our whitethorn; and when, as often happens, there is a background of cedars or pine, the mass of flowers is almost as conspicuous as if a shower of snow had fallen upon the boughs. As we sometimes see a pink variety of the wild thorn in England, so there occurs here, now and then, though rarely, a pink Dogwood. Having never remarked this splendid tree in any English shrubbery or park, I had some fine young plants sent home from a nursery to several English friends, and among others to Sir Wm. Hooker, at Kew, who was not a little diverted at my zeal for the introduction of a tree which had been well established for many years in the British Arboretum. But now that I have since seen the dwarfed and shrubby repre-

sentatives of this species in our British shrubberies, I am ready to maintain that it is still unknown in our island. No Virginian who was not a botanist could ever recognise it in England as the same plant as the Dogwood of his native land. Yet it is capable of enduring frosts as severe and protracted as are ever experienced in the south of England, and the cause of its flowers not attaining their full size in our climate is probably a want of sufficient intensity of light and heat."

2. *C. Suécica* (Dwarf Cornel).—*Leaves* egg-shaped, smooth, sessile, and opposite; *flowers* few; *involucre* of four leaves. Plant perennial. This is a very different plant from the Cornels of our shrubbery, or that of our hedges, being an herb, and not a shrub or tree. It has subterranean and creeping woody stems, from which arise the flowering stems, about six inches in height. The flowers are produced in July and August, and are dark purple, with yellow stamens. At the base of the umbel are four egg-shaped yellow bracts, tinged with purple. The red berries are considered to have tonic properties. The Highlanders, who believe that they increase the appetite, give to the plant the name of *Lus-a-chrasis*, plant of gluttony. The Dwarf Cornel grows on moist alpine pastures in Scotland and the north of England. It has been found in Northumberland, and in the vicinity of Pickering and Scarborough. Mr. Loudon says it is very difficult to cultivate in a garden, though planted in a bed of peat in a shady situation.

Sub-Class III. — Corolliflorae.

Petals united, bearing the Stamens.

Order XLI. LORANTHEÆ.—MISTLETOE TRIBE.

Stamens and *pistils* often on different plants; *calyx* attached to the ovary, with 2 bracts at the base, sometimes almost wanting; *petals* 4—8, united at the base, expanding in a valve-like manner; *stamens* equalling the petals in number, and opposite to them; *ovary* 1-celled; *style* 1 or 0; *stigma* simple; *fruit* succulent, 1-celled, 1-seeded. This Order consists of shrubby plants, which are mostly true parasites, their seeds not germinating on the earth, but only on some other plant.

1. Viscum (Mistletoe).—*Stamens* and *pistils* on separate plants: barren *flower* without calyx; *petals* 4, fleshy, united at the base, each bearing an anther: fertile *flower*, *calyx* a mere rim; *petals* 4, very small; *stigma* sessile; *berry* 1-seeded, crowned by the calyx. Name, the Latin name of the plant.

1. Viscum (Mistletoe).

1. V. *álbum* (Common Mistletoe).—*Stem* branched, repeatedly forked; *leaves* egg-shaped and lanceolate,

blunt; *flowers* sessile in the forks of the stem. Plant perennial. The Mistletoe-bough, with its pale yellow leaves and clear white berries, is not an unfrequent object in the winter woods, or on the trees of gardens or orchards in the southern counties of England. It is found growing on several trees, but is more common on the apple than any other, and is very rarely to be found on the oak. Ray mentions the oak, hazel, and apple as the trees on which this parasite chiefly fixes; but adds, that it may be found also on the pear, hawthorn, common maple, ash, lime, elm, and service-tree. Sir Wm. Hooker and Dr. Arnott mention that it occurs in Gloucestershire on the common maple (*Acer compéstre*), and on lime-trees and locust-trees (*Robinia Pseudo-Acacia*) in Bedfordshire. It also grows on cherry laurels in gardens. Mr. Dovaston planted the Mistletoe on twenty-three trees, but most of the young plants died early, particularly when planted on the resinous or gum-bearing trees, and he found it to thrive well only on the oak, the apple, and the hawthorn. Some poplar and lime-trees, however, in Surrey have been completely destroyed by the quantity of Mistletoe which grew upon them. Mr. Dovaston remarks, that he never saw the plant growing well on the oak but once, and that, singular to say, was in Anglesey, in the park of Lord Uxbridge; and it was the more remarkable, as hanging almost over a very grand Druidical Cromlech. It is usually in the south of England a bush of about three feet in length, with a smooth and green stem, separating at the joints when dead; the leaves are thick and leathery, the small yellow flowers, which may be seen from March to May,

grow in the axils of the upper leaves, and are very thick and succulent. The berries ripen in December, and the yellowish green plant is then very conspicuous, for no verdure is in the woods save that of the holly or fir, or some other evergreen tree.

There is little reason to doubt that our Mistletoe was the plant reverenced by the Druids; but as an allied parasitic plant (*Loranthus Europæus*) is very commonly found in the south of Europe to grow on the oak, and as our Mistletoe rarely occurs on that tree, some botanists have supposed the Loranthus to be the ancient plant. Those who hold this opinion consider that as this latter plant is not now wild in Britain, it was eradicated entirely when Druidism was suppressed, in order that every vestige of the wonderful superstition might be removed. Professor Burnett, who does not at all agree with this theory, remarks, "The Mistletoe, although seldom found on the oak, is not exclusively a parasite of other trees, and its rarity on the former not improbably led to the preference which the old botanists as well as the Druids gave to *Viscus Quercûs*, the Mistletoe of the oak, over the *Viscus Oxyacanthi*, the Mistletoe of the hawthorn, when these plants were held in much repute in medicine. Hence the very circumstance of a search being made for *quercine* Mistletoe, in an age when these islands were covered with forests of oak, is opposed to the idea of the Loranthus being the plant in question. Had it then been indigenous here, the oak would have been its common if not its exclusive habitat, and this confirms the belief that the *Viscum* was the branch which the Druids went with such solemnity to cut." To our own minds,

the fact that the Mistletoe can be planted, and will thrive on the oak, renders it much more likely that it should have been the chosen plant, than that in times when forests were so numerous, and the means of access to distant parts of the country so difficult, the Druids could have succeeded in wholly extirpating the Loranthus, even had they wished to do so. The Mistletoe which Mr. Dovaston saw in Anglesey might have grown on the oak without artificial help, as it still does in some parts of England. The Society of Arts, who some years since offered a premium for the discovery of the Mistletoe on the oak, had a specimen sent them from an oak in Gloucestershire; and Mr. Jesse mentions having received a piece of Mistletoe from an oak near Godalming, in Surrey. The latter writer remarks, that this question of the Mistletoe and Loranthus is not one merely of our times. It excited attention three hundred years ago, for Belon, when travelling in Macedonia, speaks of a Mistletoe which grew on the oaks there, and observed that there was not a single oak-tree on the road between Mount Athos and Tricala on which the plant did not grow, though he says it was different from that which attaches itself to the apple, pear, and other trees. In all probability it was the *Loranthus Europæus* that the traveller saw.

The connexion of the Mistletoe with the most ancient traditions of Scandinavia and other European countries must ever invest the plant with an interest derived from association. We know, indeed, little of the Druids or their worship, though their vast monuments, their cairns and cromlechs are scattered over our country, and are

remnants of its worship ere its history began. One thing we know, that amid dark and superstitious practices they yet held a faith somewhat purer than most priests of those times, for they taught, at least, that there was one God, and not "gods many;" yet they probably proved no exception to the truth declared in Scripture, that the dark places of the earth are full of the habitations of cruelty.

It is from Pliny chiefly that we gather the little which is known of the use made by the Druids of the Mistletoe. This ancient naturalist, in the words of his translator, Dr. Philemon Holland, says, "And forasmuch as we are entred into a discourse touching miselto, I cannot overpasse one strange thing thereof used in France. The Druidæ (for so they call their Divinours, Wise Men, and the State of their clergie) esteeme nothing in the world more sacred than miselto, and the tree whereon it breedeth, so it be on the oke. Now you must take this by the way. These priests or clergiemen chose of purpose such groves for their Divine service as stood onely upon okes: nay they solemnise no sacrifice, nor perform any sacred ceremonies without branches and leaves thereof, so that they may serve well enugh to be named thereupon Dryidæ in Greeke, which signifieth as much as the oke priests. Certes to say whatsoever they find growing upon that tree over and besides its own fruite, be it Miselto, or any thing else, they esteeme it as a gift sent from Heaven, as a sure signe that the God whom they serve giveth them to understand that he hath chosen that peculiar tree. And no marveile, for in verie deed Miselto is passing geason

(scarce), and hard to be found on the oke." This naturalist further describes how the Druids with many devout ceremonies cut down the Mistletoe, as Drayton many years after relates in his "Poly-olbion:"—

> "The fearless British priests, under the aged oak,
> Taking a milk-white bull, unstained with the yoke,
> And with an axe of gold, from that Jove-sacred tree
> The Mistletoe cut down."

Pliny also adds, that the Mistletoe in some sort kills trees. He says, too, that the Druids call it All-heal. Full as his own great work is of superstitions connected with plants, yet this old writer closes his account by quaintly moralizing on these practices: "So vain and superstitious," he says, "are many nations in the world, doing oftentimes such foolish things as these."

The Celtic name for the oak was *gwid*, *gue*, or *guy*, meaning the shrub, *par excellence;* and the name by which the Mistletoe is still called in France, *Le gui*, is evidently but a slight alteration of this. Borlase, in his "Antiquities of Cornwall," says, that the Druids gathered the plant with great solemnity near the close of the year, saying, "The new year is at hand, gather the Miseltoe;" and even yet, in some parts of France, the peasant boys go about asking *largesse*, and crying, "*A guy l'an neuf;*" while in the upper part of Germany, the people, about Christmas time, run from door to door in the villages, shouting, *Guthyl, Guthyl;* which, he adds, are plainly the remains of the Druidical custom. The name by which the plant is known in most parts of Germany is *Der Mistel.* The people of Holstein call it

Marentakken, which means literally "the branch of the spectres," from the belief that holding a branch of the Mistletoe in the hand would not only enable a man to see ghosts, but also to speak to them. It is in Italy called *Vischio*, the Spaniards term it *Liga*, the Poles *Jemiel*, and the Russians *Omela*.

The Druids, probably, considered the Mistletoe of the oak as efficacious in all sorts of illness. In many parts of Germany it is yet valued for its healing virtues, and supposed to cure wounds; but it is evidently relied upon rather as a charm than from any healing properties in the plant itself; for the peasants believe, too, that if the huntsman carries it in his hand it will ensure success. The herbalists in Queen Elizabeth's time, however, enumerate various preparations of Mistletoe, both as external and internal remedies; and one of them remarks, "Why that should have the most virtue that grows upon okes, I know not, unless because it is rarest and hardest to come by; and our college's opinion is in this contrary to Scripture, which saith, 'God's tender mercies are over all his works:' and so it is, let the College of Physicians walk as contrary to Him as they please, and that is as contrary as the east to the west. Clusius affirms that which grows upon the pear-trees to be as prevalent, and gives orders that it should not touch the ground after it is gathered; and also saith, that being hung about the neck it remedieth witchcraft." The herbalists of those days all praise its efficacy as a remedy for epilepsy, as did the Italian physician Matthiolus. Even as lately as the reign of George I. the plant was extolled for its use in this malady; and Sir George

Colbatch, a physician, published, in 1719, a "Dissertation concerning Mistletoe," recommending it as a specific in epilepsy. The berries are slightly astringent, and a preparation of these was recommended in later years, but in earlier times a branch of the Mistletoe was merely hung about the neck. At one time it was actually called *lignum sanctæ crucis*, wood of the holy cross; and the praises bestowed upon it only serve to prove how, in those days of oral tradition, legends gradually adapted themselves to the form of religious belief, till that "more sure word of prophecy" had driven away superstition by shedding its pure light on the heart and understanding.

The Mistletoe is almost the only British parasitical plant which bears green leaves, though we have several brown and leafless parasites, like the Broom-rapes. At no time of its existence is this plant nourished by the soil, but derives its sole food from the substance of the tree. Mosses, ferns, and lichens, are often, in popular language, termed parasitic, but they are nourished entirely by the moisture of the atmosphere, or by the soil lying in the crevices of the bark. The insertion of the roots of Mistletoe into the very substance of living vegetables, and the mode of germination of the plant, have occupied considerable attention among botanists, and are sources of great physiological interest. Dutrochet, as well as other men of science, made numerous experiments on the plant with a view to ascertain its exact mode of growth. Every one is awave of the fact that when a seed is planted in the ground, whatever may be its position in the soil, it will send its leaves and

branches upwards, and its roots downwards. Dr. Darwin ingeniously accounted for this on the principle that the leaf-bud was stimulated by air, and the roots by moisture, and that, therefore, each elongates itself where it is most excited. The experiments made on the Mistletoe confirmed the opinion derived from observations on various plants, that the tendency of the root is always towards the centre of the object on which it grows, and that the young shoots take invariably the opposite direction. Let us plant the seed of the Mistletoe wherever we choose, under a bough, or upon it, or on either side, the root strikes inwards to the centre of the branch, and grows horizontally or laterally, or even shoots upwards, while the stem is produced in the opposite direction.

The Mistletoe is found, when parasitic on the apple, to contain twice as much potash and five times as much phosphoric acid as the tree itself; and when growing on the oak, its bark is astringent. It has, however, lost its old renown as a medicine, and the magical properties mentioned by Virgil and other ancient poets are remembered, in our country, at least, but as old superstitions. The clear white berries have been made into bird-lime, but recent inventions are superseding that use of the plant, and these fruits will, probably, soon be left to feed the Missel-thrush or "Storm-cock," as he is called in country places, whose harsh notes from the apple-tree sometimes sound a suitable prelude to the raving of winds and the pelting rains and snows which they are thought to predict. The fruits look very beautiful, however, when mingled with the red berries and glossy leaves of

the holly in the winter bouquet. The plant is very properly excluded from the boughs which deck the churches at that season; not, however, for the reason which that orthodox old antiquary, Brande, supposes, because of its heathenish associations, for these are so little remembered now that they need not interfere with modern practices, but because it is so often in rustic places associated with Christmas merriment, that it might awaken remembrances less favourable to thought and devotion. The playful customs beneath the Mistletoe bough in the country-house are of old antiquity in our land, and are supposed to have originated in the circumstance that the plant was dedicated to the goddess Friga, the Venus of the Saxons. In the feudal ages, the bough was gathered with much ceremony on the evening before Christmas Day, and hung up in hall or kitchen with loud shouts and rejoicing:—

"On Christmas Eve the bells were rung;
On Christmas Eve the mass was sung;
That only night in all the year
Saw the stoled priest the chalice rear;
The damsel donn'd her kirtle sheen;
The hall was dress'd with Holly green;
Forth to the woods did merry-men go
To gather in the Mistletoe;
Then open'd wide the baron's hall,
To vassal, tenant, serf, and all."

From Herrick's "Hesperides," we find that this plant, and its companions, retained their places as ornaments in the house till Candlemas Day, at which time, the poet says—

"Down with the Rosemary and Bayes,
Down with the Mistletoe:
Instead of Holly, now upraise
The greener Box for show:
The Holly hitherto did sway,
Let Box now domineer;
Until the dancing Easter Day,
Or Easter's Eve appear."

The "crooked Yew" was to succeed the "youthful Box," and the "Birch, and many flowers beside," were to yield to the "green Rushes and scented Bents," till the close of the year, when Mistletoe and Holly should resume their reign.

The Mistletoe is pretty general in Europe, and in some other portions of the globe attains a larger size than with us, and is more frequent. Thunberg says that the parasitic Cape Mistletoe, *Víscum Capénse*, was disseminated everywhere on the branches of the trees by means of the birds, which ate plentifully of its berries; and Kalm mentions a fibrous Mistletoe (*Víscum filamentósum*), found in abundance in Carolina, which he says the inhabitants make use of as straw in their beds, and also to adorn their houses. They pack brittle goods with it as with straw, and also use it as fodder for cattle. Our common Mistletoe, he says, grows on the Tupelo, or Sweet Gum-tree, and on the oak and lime, so as to render their summits quite green in the winter. Colonel Mundy often mentions the Mistletoe of Australia, which, he tells us, hung upon the trees, and, like vampires, seemed to exhaust the life-blood of the plants on which they fixed their fatal affections. He, too, names the gum-tree as a plant on which the parasite grew in

great abundance. This writer says, "Early in the morning, when the dew is yet on the leaf, a peculiarly aromatic odour arises from the gum forest. Sometimes I have fancied the scent resembles that of mace, cloves, or pepper, but that of camphor is very general. These balmy and spicy exhalations from the 'medicinal gum,' so different from those of other hot climates where the soil is richer, and the vegetation rankly abundant, must be a healthful ingredient of the air we breathe. Depending from some of the larger gum-trees were the most enormous Mistletoes I ever saw. One or two of the clusters of this parasite were so uniform in shape, as to look like a huge chandelier of bronze, for that was their colour, hanging plumb down from some slender twig."

Order XLII. CAPRIFOLIACEÆ.—THE WOODBINE TRIBE.

Calyx attached to the ovary, and usually having bracts at its base; *corolla* regular or irregular, 4—5 cleft; *stamens* equal in number to the lobes of the corolla, and alternate with them; *ovary* 3—5-celled; *stigmas* 1—3; *fruit* usually fleshy, crowned by the calyx. This Order contains many plants of great beauty, differing much from each other. It consists of shrubs or bushes, and herbaceous plants, with opposite leaves. Many very lovely species ornament our gardens, and some, like the Honeysuckle, adorn our native landscape. Excepting

some astringency in the bark, however, the plants of this Order have no remarkable properties.

1. Sambúcus (Elder).—*Calyx* 5-cleft; *corolla* wheel-shaped, 5-lobed; *stamens* 5; *stigmas* 3, sessile; *berry* 3—4 seeded. Name from the Greek *sambúce*, a musical instrument, in making which its wood is said to have been used.

2. Vibúrnum (Guelder Rose).—*Calyx* 5-cleft; *corolla* funnel-shaped, 5-lobed; *stamens* 5; *stigmas* 3, sessile; *berry* 1-seeded. Name, the Latin name of the plant.

3. Lonícera (Honeysuckle).—*Calyx* small, 5-toothed; *corolla* tubular, irregularly 5-cleft; *stamens* 5; *style* thread-shaped; *stigma* knobbed; *berry* 1—3 celled, with several seeds. Named in honour of the German botanist, Adam Lonicer.

4. Linnæa.—*Calyx* 5-cleft; *corolla* bell-shaped, 5-cleft, regular; *stamens* 4, two long and toothed; *fruit* dry, 3-celled, 1 cell only bearing a perfect seed. Named after Linnæus.

1. Sambúcus (Elder).

1. *S. nígra* (Common Elder).—*Leaves* pinnate; *leaflets* egg-shaped or roundish, and serrated or jagged; *stem* woody; *flowers* in cymes. The Elder, which is sometimes a bush, sometimes a small tree, is well known to all dwellers in the country as being the very first bush in the spring hedge to put forth its pale-green, strongly-scented leaves. As early as February we may see it sprouting, even when snows are whirling over the

landscape. Clare mentions it in his description of Nature on "the last of March:"—

"Here 'neath the shelving bank's retreat,
The Horse-blob swells its golden ball,
Nor fear the Lady-smocks to meet
The snows that round their bosom fall;
Here, by the arch's ancient wall,
The antique Elder buds anew;
Again the Bulrush, sprouting tall,
The water wrinkles, rippling through."

In June, the white clusters, tinged with greenish-yellow, form a conspicuous mass in the hedge. The plant grows well on exposed places, and even near the sea. It is usually seven or eight feet, but is occasionally eighteen or twenty feet in height, the branches having a greyish bark, and the main stem being usually rugged. The younger branches are full of pith, which the school-boy pushes out, leaving a hollow pipe fitted for his toys; and the pith has been used in electrical experiments. In olden times the cylinders thus formed were used for pipes; hence the plant had in England the old name of Pipe-tree, or Bour-tree, and in Scotland was called Bore-tree. Pliny says, "The shepherds are thoroughly persuaded that the Elder-tree, growing in a by-place out of the way, and where the crowing of cocks from any town cannot be heard, makes more shrill pipes and louder trumpets than any other." The wood of the older branches, which is hard and firm, is used for skewers. The autumnal berries are usually purplish-black, but are sometimes white. They are very mawkish and disagreeable, but the pleasant spiced wine made of them is often drunk around the winter fire in country

houses, and is considered cordial and wholesome, though unfit to be taken in large quantity, as it is very cloying. A syrup, very good for soreness of the throat, may also be made of the berries; and these have been extensively used to adulterate port wine, to which they give a rich colour, though, if not well regulated, they will impart to it a most unpleasing flavour. A good blue dye is also made from these fruits. They are sometimes eaten by poultry which stray beneath the boughs, but they are said to be injurious to them, and especially to turkeys. It seems that in ancient times the appearance of this fruit indicated the season for sowing wheat:—

> "With purple fruit when Elder branches bend,
> And their bright hues the hips and cornels lend,
> Ere yet chill hoar-frost comes, or sleety rain,
> Sow with choice wheat the neatly furrow'd plain."

The unfolded flower-buds of this tree make, when pickled, one of the best substitutes for capers, and though the scent of the blossoms is not pleasing, yet a fragrant water is made from them by distillation, and they are used to flavour vinegar. Elder-flower wine is said also to be very good, and to have a flavour like Frontignac. The French seem to like the odour of these flowers, for they place layers of them in store-rooms between their apples, or pack them in baskets with this fruit, to communicate to it an agreeable scent. In this country the chief use made of the blossoms is in the preparation of a useful and common salve, and in country places they are steeped in boiling water, and thus afford a cosmetic, which we have applied often

during our childhood with good success, for removing the effects of long exposure to the sun. Few of our native plants have had and still retain more renown for their medicinal virtues than the Elder. Indeed, as Sir J. E. Smith said, this tree is, as it were, a whole magazine of physic to rustic practitioners. Boerhaave is said sometimes to have taken off his hat when he passed the tree, so useful did he deem it in the alleviation of human maladies. The early shoots, boiled as asparagus, were supposed greatly to strengthen the vital powers; the berries and juices of the root were also prescribed, though with some cautions as to their use, on account of their powerful properties; and the distilled water, besides making the skin "faire and beautifull," was thought to cure head-ache. Gerarde praised the Elder highly, as did John Evelyn, who recounted its virtues at some length, though he says he cannot commend its scent, which is noxious to the air, nor has he a word to say in favour of its beauty. "If," he says, "the medicinal properties of the leaves, bark, berries, &c., were thoroughly known, I cannot tell what our countryman could ail for which he might not find a remedy from every hedge, either for sickness or wound. The inner bark of Elder applied to any burning, takes out the fire immediately; that, or in season the buds, boiled in water-gruel for a breakfast, has effected wonders in a fever; and the decoction is admirable to assuage inflammation. But an extract may be composed of the berries, which is not only greatly efficacious to assist longevity, but is a kind of Catholicon against all infirmities whatever; and of the same berries is made an incomparable spirit, which

drunk by itself, or mingled with wine, is not only an excellent drink, but admirable in the dropsy. The ointment made with the young buds and leaves in May, with butter, is most sovereign for aches and shrunk sinews, and the flowers macerated in vinegar are not only of a grateful relish, but good to attenuate and cut raw and gross humours. And less than this could I not (with the leave of the charitable physician) to gratify our poor woodman." It seems never to have occurred to Evelyn, any more than to modern believers in "infallible specifics," that He who gave life and health was not likely to give also to fallen man any certain preventive against that Death which came upon all men when Adam sinned in Eden. As Milton said—

> "Dwelt in herbs and drugs a power
> To avert man's destined hour;
> Learn'd Machaon should have known
> Doubtless to avert his own."

Other good writers of those days held similar opinions to Evelyn of the efficacy of the Elder; yet a line in Lilley's "Epilogue," written in Queen Elizabeth's time, would lead to the inference that it was in some disrepute.

> "Laurel for a garland, Elder for a disgrace,"

says this old writer; and in an elegiac verse of Spenser we find it included with the cypress as an emblem of woe:—

> "Now bringen bitter Elder branches sere."

Piers Ploughman had, before this, said in his "Vision"—

> "Impe on an Elderne, and if thy apple be swete,
> Muchel marvaile me thynketh:"

"Imp" being the old word for graft.

The Elder-tree is often said, especially when in blossom, to exhale impure air. Its scent is certainly unpleasant, yet we doubt its unwholesomeness, having spent many a day beneath its shadow. Pliny says that the leaves when boiled are as good as other potherbs; but we cannot recommend them, though they may prove of much use when laid among mole-hills, as they appear to drive moles from their haunts in garden or park. Country people also gather branches of Elder, and strike with them their flowering shrubs or fruit-trees, and say that no insects will afterwards touch them. For the same purpose they pour an infusion of the leaves over the plant.

There is a cultivated variety of the Elder with variegated leaves in shrubberies, and others with yellow, green, or white berries. Like our common Elder, they grow with singular rapidity, but never arrive at any great size. In the northern part of Scotland the berries seldom ripen, though the tree thrives well in other respects. The name of Elder seems to be derived from the Dutch *Holder*. The Germans call the plant *Hollunder*, and it is also known in Holland as the *Vlierboom*. The Italians call the tree *Sambuco;* the French, *Sureau;* the Spaniards, *Sauco;* and the Russians, *Busina*.

It was a fancy in former times that Judas hung himself upon an Elder-tree, and not only Gerarde and other herbalists, but several poets, as Ben Jonson, refer to the idea then prevalent. The well-known purplish brown fungus which grows in clusters on the bark of this tree, the *Exidia auricula*, is shaped very much like an ear,

and is to this day called Jew's-ear, but from the incidental mention of the plant in connexion with the traitorous disciple, it is probable that the modern name is a corruption of Judas' Ear. Coles, in his work on the "Knowledge of Plants," says of this fungus, "Jewes Eare is called in Latin *Fungus Sambucinus*, and *Auricula Judæ*." He adds, that these mushrooms are said to have grown on the tree ever since the catastrophe referred to. This plant was supposed to have wondrous virtues, and we find an old remedy for a cough in the following lines :—

"For a cough take Judas' Eare
With the paring of a Peare;
And drinke this without feare
If you will have remedie."

2. *S. Ébulus* (Dwarf Elder, or Danewort).—*Stem* herbaceous, furrowed; *stipules* egg-shaped, serrated; *leaves* pinnate; *leaflets* serrated; *flowers* in terminal cymes; *root* perennial. This plant has, during June and July, when it is in flower, a general resemblance to the common Elder, and its scent is also similar. It is, however, an herb and not a tree, and its angular stem is not more than two or three feet high. The blossoms are white, tinged on the outside with red, and the anthers are conspicuous by their purple colour. The berries are reddish black, and have violent emetic properties, though they were prescribed by old physicians, and praised by herbalists for their efficacy in many disorders; a confection made of the fruit is said to be eaten with safety in small quantities, and is sometimes used medicinally. The berries afford a violet juice, which gives a good

blue dye. They are strewed in granaries, that their strong odour may drive mice from the corn; and the Silesian farmers commonly place them among their pigs, believing them to cure some maladies to which these animals are liable. No cattle will touch the foliage, but the leaves, dried and powdered, are said to furnish a good material for cleaning metal. The Dwarf Elder is not common, but is found occasionally by way-sides and in waste places.

2. Vibúrnum (Guelder Rose).

1. *V. Lantána* (Mealy Guelder Rose, or Wayfaring Tree).—*Leaves* elliptic, heart-shaped at the base, serrated, downy beneath; *flowers* in terminal cymes; *root* perennial. Those who are used to those parts of England in which chalk and limestone prevail are mostly familiar with this shrub, for it grows commonly in the woods and hedges of such soils. One of its common names is Cotton Tree, doubtless from the cottony appearance of its young shoots. As early as February these attract the attention of the country rambler, for they stand up above the branches of the leafless thorn and other plants, each surmounted by a small close button-like tuft of a grey-green hue, which in time displays the greyish green strongly veined leaves and the opening buds of the cluster. As the foliage gradually unfolds, its downy covering gives it the appearance of being covered with dust, and by May the large compact cluster of white flowers are fully expanded. William Howitt has a pleasing poem on this shrub, and thus addresses it:—

"Wayfaring Tree, what ancient claim
Hast thou to that right pleasant name?
Was it that some faint pilgrim came
Unhopedly to thee,
In the brown desert's weary way,
'Mid toil and thirst's consuming sway,
And there, as 'neath thy shade he lay,
Bless'd the Wayfaring Tree?"

Such a name will indeed awaken the imagination to ponder on its origin, and to wonder to what weary wanderer the wayside-tree proved so welcome as to win his regard. Though a sober looking plant, yet it is bright enough in autumn, when its bunches of glossy fruits are of a most brilliant scarlet, gradually changing as they ripen into purplish black, and distinguishing themselves from all our other wild-wood berries by growing in flat compact clusters, as well as by having some fruits in the cluster of glowing scarlet, while others are dark as jet. Their flavour is very austere, and they seem to be left untouched by the birds, which probably only feed on them when other berries are not to be had. They are also astringent in property; but in North America they are, after fermentation, made into a sort of cake by the Indians; and Dr. Joseph Hooker, who found the berries of one species abundant on some parts of the Himalaya, says that they are called *Nalum* by the people there, and are eatable and agreeable. In Switzerland they are used in making ink. The bark of the tree is made into bird-lime, but seems to be inferior for this purpose to that of the holly. Evelyn says that the inner bark is so acrid, that it is included by some writers among those plants used in raising blisters on the skin,

and it is said that a decoction of the leaves will dye the hair black. The young shoots are very tough; so much so, that the gatherer of the wild nosegay must use a knife in severing the twig and its flowers. They are in some countries used in making baskets, and for the stems of tobacco pipes. In Kent they are often bound around faggots to keep them together.

2. *V. Ópulus* (Common Guelder Rose).—*Leaves* broad and somewhat heart-shaped, with from three to five pointed and serrated lobes; *flowers* in large cymes. Plant perennial. This is not an uncommon tree in the English or Scottish woodlands, being more ornamental to them by the varied autumnal tints of its foliage, and by its glistening berries, than even by its summer flowers. The leaves at this season are of red, purple, and green hues, and we know of no native berries so beautiful as those of the Guelder Rose. They hang in drooping clusters, and are smooth, and clear, and bright as rubies. They remain on the boughs long after the foliage has dropped from them leaf by leaf, and they often contrast most vividly with the silken tufts left by the Clematis flower which is winding near them. The shrub bears its blossoms in June and July. These are white, and far inferior in beauty and snow-like hue to those of the Guelder Rose, which adorns the shrubbery, as Cowper says—

> "Throwing up into the darkest gloom
> Of neighbouring Cypress, or more sable Yew,
> Her silver globes, light as the foaming surf
> That the wind severs from the broken wave."

This, however, is but a cultivated variety of the wood-

land shrub. The flowers in their wild form are not densely crowded, but form a loose flat cluster, the inner blossoms being small and perfect, and the outer ones consisting of a large flat five-lobed corolla, destitute of stamens and pistils. They are scarcely fragrant, but are said to be sudorific. The wood of this little tree is used for making skewers, and the berries, though not well-flavoured in our country, and if crushed emitting a most disagreeable odour, yet are eaten in Siberia, mingled with honey and flour. Gerarde calls this plant the Rose Elder and Gelder Rose. He says the Dutch call it *Gheldersche Roose*. These names probably all came from Guelderland, where the plant is said to grow freely. The French call it *Boule de neige*, and also *Viorne*, and it is also commonly called by the latter name in Holland. In Germany it is termed *Schneeball* and *Schlingbaum*, and in Italy and Spain, *Viburno*. The Turks call it *Germeschek*, and the Russians, *Gordowina*. Its name of *Opulus* is supposed to have been originally *populus*. One of our most ornamental and frequent garden evergreens, the Laurustinus, is the *Viburnum Tinus* of the South of Europe, and its branches mingle with the bay and sweet myrtle in the rich and fragrant hedges of Italy.

3. Lonícera (Honeysuckle).

1. *L. Caprifólium* (Pale Perfoliate Honeysuckle).—*Flowers* in sessile terminal whorls; *leaves* smooth, blunt, upper ones connate, the rest distinct: *root* perennial. This is a very rare Honeysuckle, but is found in some

thickets in Oxfordshire and Cambridgeshire, as well as in woods near Edinburgh. It thrives among the trees and bushes, producing in May and June its white or purplish flowers, which are succeeded by bright orange-coloured berries.

2. *L. Periclýmenum* (Common Honeysuckle, or Woodbine).—*Flowers* in terminal heads; *leaves* all distinct, oval, sometimes downy beneath. Perennial. There is scarcely any flower more prized by the lover of the country than the Honeysuckle, which from June to September is covered with its beautiful blossoms of red and yellow, sending sweet odours far and wide, and forming garlands of grace and beauty. It merits well its old name of Woodbine, or Woodbind. Sometimes, indeed, it binds the tree too closely, as we may see from the indentations which it leaves on its bark, and the ridges which rise up between its coils. At first, while its branches are tender, the Honeysuckle does no harm to the stem or bough which it encircles; but soon that stem or bough increases in size, while the twining plant does not lengthen with proportionate rapidity; till at last the coil becomes closer and tighter, and is as Cowper described it:—

> "As Woodbine weds the plant within her reach,
> Rough elm, or smooth-grain'd ash, or glossy beech,
> In spiral rings ascends the trunk, and lays
> Her golden tassels on the leafy sprays:
> But does a mischief while she lends a grace,
> Slackening its growth by such a strict embrace."

The Honeysuckle is one of our earliest leafing plants, and we have seen it on the last day of February,

with reddish-green leaves an inch long, in hedges, where, except on the pale green elder shoots, and an occasional evergreen, not another leaf was to be seen. Bishop Mant has alluded to this:—

> "And first behold we twine
> The runners of the lithe Woodbine,
> The first of wilding race that weaves
> In Nature's loom its downy leaves
> And hang in green festoons, that creep
> O'er thorny brake or craggy steep;
> Content to wait for May to spread
> Its yellow tubes o'erlaid with red:
> Alas! ere May arrives, with grief
> 'Twill feel, now green, the blacken'd leaf
> Thrown prematurely forth to bear
> The nipping frost, the blighting air."

At such a season the landscape is looking dreary: the thorns with bronzed stems hang dripping with rain-drops; the dark berries of the dark-leaved privet glisten near the red twigs of the cornel, while perchance some bough of the yellow osier seems like a golden rod, or some catkin of willow or hazel gives a little brightness to the scene. Brown leaves with an occasional yellow spray hang on the youngling oaks, and the rich crimson-tinted leaf or stem of the bramble winds among them. But the Honeysuckle leaf has about it the hopes and associations of spring-time. It is the herald of thousands of green leaves which shall quiver on the stem and resound to the pattering rain-drops of April, and be brightened by April rainbows—its spray is to the foliage like the daisy to the flowers and the robin to the birds, the first, and therefore the fairest of its clan.

The sweet odour of the Honeysuckle, and its frequency in the hedge, has endeared the plant to all lovers of Nature; and the poets, whose vocation it is to express the thoughts and feelings which have filled the hearts of the thousands who could never give them utterance—the poets, from Chaucer downwards, have all praised the Honeysuckle. Chaucer tells how those that—

> "Wore chapelets on hir hede
> Of fresh wodebind, be such as never were
> To love untrue, in word, ne thought, ne dede;
> But ay stedfast: ne for plesance ne fere,
> Tho' that they shoulde hir hertes all to tere,
> Would never flit, but ever were stedfast
> Till that hir lives theie asunder brust."

The poet drew his image of constant affection doubtless from the clinging nature of the Woodbine, and its enduring hold on the tree. Spenser, Michael Drayton and Shakspeare all call it Woodbine, Honeysuckle, or Caprifoly; but Milton evidently intends this flower by the "twisted Eglantine," a name, however, which all others of the olden poets, Chaucer included, had given to the Sweet Brier.

Besides the blooms which the Honeysuckle bears in summer, it flowers again, though far less luxuriantly, in October. The dull red berries are clammy, and would not tempt any one by their flavour to pluck them, for they are sweetish and insipid, though the berries of the Blue Honeysuckle (*L. cærúlea*) are a very favourite food with the Kamschatdales. Dr. Griesbach says: "The pine forests of Kamschatka have an underwood of roses and honeysuckles. Among the edible fruits the Arctic

Bramble has the most agreeable taste; the elongated dark blue berries of a Lonicera come next; their taste is not inferior to the finest cherries; they are prepared with milk, or Sarannah, and form a favourite article of food." The fruits of several species are, however, said to be emetic.

The foliage of our Woodbine is very agreeable to goats, hence our plant is sometimes called Goat's-leaf, or Caprifoly; and the same allusion is to be traced in the specific name of the botanist, and the French name of the plant, which is *Chévre feuille*, as well as in some others of those by which it is known on the continent of Europe. It is the *Caprifoglio*, or the *Madresalva*, of the Italian and Spaniard; the *Geisblatt*, or the *Baumlilie*, of the Germans; and the *Kamperfolie* of the Dutch. The genus now called *Lonicera* is a section of the older genus *Caprifolium*.

The Honeysuckle in its windings follows the sun from east to west. The plant bears pruning well, for, as Professor Martyn observes, those plants which in a state of nature cannot ascend without the assistance of others, are often liable to lose large branches; they have therefore a proportionate vigour of growth adapted to restore accidental injuries. The leaves are very liable to the attacks of Aphides, and the Sphynx Hawk-moths with their long tongues extract the honey from the tubes. Other insects make their way to the base of the tube, and sometimes find it less difficult to emerge from it by eating their way through, than by ascending the narrow outlet; so that this, like the Snap-dragon and other tubular blossoms, may often be seen full of the

little holes which they have pierced. Fragrant essences and waters are made by perfumers of the flowers of the Honeysuckle; and the plant is often as Wordsworth describes:—

> "Brought from the woods the Honeysuckle twines
> Around the porch, and seems in that trim place
> A plant no longer wild."

3. *L. Xylósteum* (Upright Fly Honeysuckle).—*Stalks* 2-flowered, downy; *berries* distinct, except at the base; *leaves* egg-shaped, entire, downy. Plant perennial. This shrub, which is a very doubtful native, occurs in woods in some parts of England, as in Hertfordshire and Northumberland. It has in May and June small flowers of a pale yellow colour and without fragrance, and its fruits are scarlet.

4. Linnæa (Linnæa).

1. *L. boreális.*—*Stem* trailing; *leaves* broadly egg-shaped, their margins with rounded notches; *flower-stalks* long, erect, and 2-flowered; *calyx*, *flower-stalks*, *bracts*, and *involucre* hairy: *root* perennial. This elegant plant is found in woods in Scotland, especially among fir-trees, in the counties of Perth, Forfar, Inverness, and Aberdeen; and has one known English habitat, in a wood near Hartburn, in Northumberland. The delicate thread-like stems are branched, and the pink or flesh-coloured bells droop gracefully, expanding in June and July. Gronovius gave its name to this plant at the request of Linnæus, who considered that its lowly depressed condition, and the fact of its having been long unnoticed, rendered it a meet

emblem of his own early life. In all subsequent time the flower has had and will ever possess an interest to the botanist, for Carl Linne was a great reformer of Natural History, and the father of several of the modern physical sciences. Dr. E. D. Clarke found the Linnæa very common in almost all the large northern fir-forests, but he remarks that it might be easily overlooked, because it only grows in any abundance in the thickest parts of the woods, where its delicate twin-blossoms are almost hidden among the moss, through which its slender stems run along to the length of nine or ten feet. The flowers are in West Bothnia gathered for making some remedy for cold and rheumatism; and the people of Tronyen make an infusion of the plant, which they use for various disorders. Linnæus considered that it possessed medicinal properties; the odour of the blossom is much like that of our Meadow Sweet (*Spiræa Ulmária*), and Dr. Clarke found it so powerful during night-time as to enable him to discover the plant at a considerable distance. This writer remarks, "There may be other varieties of it than those which we noticed, but the representations given of it by Linnæus in his 'Flora Svecica' are not correct. No person from these representations would be able to comprehend why it received the appellation of *Nummularia*, before Gronovius, in honour of Linnæus, changed its generic name, its leaves being all there represented as ovate and serrated, whereas some of them, sometimes all, are perfectly orbicular, like little pieces of money." The plant is now, in all European countries where it grows, known by the name of Linnæa; but the Norwegians call it also *Norisle*,

Norette, and *Nariosle* grass; the Danes commonly term it *Marislegräes;* and the Swedish peasant calls it *Vindgräs.* The latter people, however, prize it from its association with their great botanist. Mr. E. P. Thompson remarks: "To have produced one man whose reputation has become the property of the Universe is to this day their boast and pride; and as if to prove what the force of the example of one great mind can effect, the love of Botany among the Swedes is a ruling passion. The *Linnæa boreális*, a little creeping plant of delicious fragrance, growing wild in the woods, and named from Linnæus, and with which they have crowned his bust, is perfectly venerated. In one of my rambles in the country some schoolboys, who were following the same path, came running to me, stranger as I was, exclaiming, 'See, sir, I have found some of the *Linnæa boreális.*'"

Nor is this interesting plant confined to Europe. Sir Charles Lyell, in one of his excursions to see the falls of the River Amsonosue, was shown by a botanist who accompanied him several places in which the Linnæa grew, and it was at that time in fruit. This traveller had seen it in July, 1842, in flower in Nova Scotia, but was not prepared to find it extending so much further southward, having first known it as a characteristic of Norway and of great Alpine heights in Europe. But he was still more surprised when he was assured by his friend that it descends even into the wooded plains of New Hampshire, under favour of a long winter and summer fogs, near the sea. He adds,—"What is most singular, between Manchester and Cape Anne, in lat. 42° 30′ N., it inhabits the same swamp with *Magnolia*

glauca. The Arctic Linnæa trailing along the ground, and protected by a Magnolia, affords a common example of two plants of genera characteristic of very different latitudes, each on the extreme limits of the Northern and Southern range."

The Swedish government granted the *Linnæa boreális* to Linnæus, as a crest for his coat of arms; and letters are yet extant sealed with the seal which the botanist had caused to be engraved with this flower.

Order XLIII. RUBIACEÆ.—THE MADDER TRIBE.

Calyx 4 or 6-lobed, or wanting; *corolla* 4—6-lobed, wheel-shaped or tubular, regular, the number of its divisions equal to those of the calyx; *stamens* equal in number to the lobes of the corolla, and alternate with them; *ovary* 2-celled; *style* 2-cleft; *stigmas* 2; *fruit* a pericarp, with 2 cells and 2 seeds. This is a very important and a very large order, but all the European species are comprised in the group called *Stellatæ*, or Rubiaceæ proper. These are natives of the northern hemisphere, and many of them are weeds,—the most valuable plant is the Madder, the roots of *Rubia tinctoria* being one of the most useful dyes yet known. Several species possess in a greater or less degree roots which might be used in dyeing. Some species, like the Squinancy-wort, are somewhat astringent; but it is to the plants of warm climates, contained in the order in its more extended form, that we owe so many valuable

articles of food and medicine. The Coffee tree, the Peruvian Bark, Quinine, and many other important products, are derived from species of Rubiaceæ.

1. Rúbia (Madder).—*Corolla* wheel-shaped or bell-shaped; *stamens* 4; *fruit*, a 2-lobed berry. Name from the Latin *ruber*, red, from the red dye afforded by some species.

2. Gálium (Bed-straw).—*Corolla* wheel-shaped; *stamens* 4; *fruit* dry, 2-lobed, 2-seeded, not crowned by the calyx. Name from the Greek *gala*, milk, some species being used for curdling milk.

3. Aspérula (Woodruff).—*Corolla* funnel-shaped; *stamens* 4; *fruit* dry, 2-lobed, 2-seeded, not crowned with the calyx.

4. Sherárdia (Field Madder).—*Corolla* funnel-shaped; *stamens* 4; *fruit* dry, 2-lobed, 2-seeded, crowned by the calyx. Name from James Sherard, an English botanist.

1. Rúbia (Madder).

1. *R. Peregrína* (Wild Madder).—*Leaves* 4—6 in a whorl, oval, or lanceolate, and glossy, the margins and back of the middle vein prickly; *corolla* wheel-shaped, 5-cleft; *root* perennial. This plant grows in some parts of the south of England, in stony and sandy thickets, and is also found on several sea cliffs. It has long straggling stems, with whorls of stiff leaves, very glossy on their upper surface, and bending under at the margins. The stems are very rough, and the plant in an early stage much resembles the common goose-grass.

The small flowers appear in June, July, and August; they grow in panicles, and are of a greenish white hue. On one or two spots of the sea cliffs at the east of Dover, the plant forms large patches, which in winter still wear their leaves and fruits, the foliage looking as if cut out of thin sheets of copper, and the black berries being about the size of currants. The larger stems are round, but when young they are square. The root contains some of that colouring matter which renders the true Madder so valuable both to dyers and colour-makers.

2. Gálium (Bed-straw).

** Root perennial; flowers yellow.*

1. *G. vérum* (Yellow Bed-straw).—*Leaves* 8 in a whorl, linear; *flowers* in dense panicles. During the summer, from June to September, many of our dry sunny banks and green sloping pastures, especially near the sea, are gay with the golden blooms of this plant, contrasting with the rich dark green tint of the slender leaves. Although the flowers are small, yet growing in large and dense clusters, they are very conspicuous, and they have a sweet honey-like scent. As this species is by far the most attractive of the genus, it probably gained for it the name of Lady's Bed-straw, which was doubtless, in the old time, Our Lady's Bed-straw. The French called the plant *Gaillet*, and *Petit Muguet;* the Germans term it *Labkraut;* the Dutch, *Walstro;* the Italians, *Gaglio;* and the Spaniards, *Cuaja leche*. It was formerly used in Cheshire for coagulating the milk for making cheese, and hence had the old name of Cheese-

rennet. Matthiolus says that it produces a very agreeable flavour, and makes the cheese eat sweeter; but the author of these pages considers that the milk in which it has been placed retains in consequence a very disagreeable taste. A slight and subtle acid exists in the plant, and vinegar has been made from its juices. Dr. Lister, writing to the great naturalist, John Ray, says that he obtained vinegar from the Yellow Bed-straw; adding, "It is a rare experiment, and is owing, for aught I know, to Borrichius: you will see a further account of it in the 'Danish Transactions.'" The whole plant boiled in alum affords a good yellow dye, and the roots yield a red colour equal or superior to that of the true Madder. They have long been used for dyeing in the Scottish islands, and were some years since recommended for general culture by the Committee of the Council of Trade; but, though the colour is rich, the roots are too small to render the plant a profitable crop. As in the case of the true Madder and of several allied species, the bones of animals are turned red by feeding on the plant. This colouring takes place sooner in young than in fully grown animals, and is deepest in those whose bones are hardest and thickest. This property of the Madder and its allies is the more remarkable, because it is not shared by other plants which, like the Woad and Saffron, are used in dyeing. It was first noted by John Belchier, an English surgeon, who having dined with a cotton-printer observed that the bones of some pork on the table were of a bright red hue. On expressing his surprise, his host explained to him that this was in consequence of the swine having

been fed on bran and water in which cloth had been previously boiled, and which was coloured by the *Rúbia tinctória.* Mr. Belchier, after making various experiments on the subject, communicated the results to the Royal Society. Singular preparations were afterwards made, by which animals were fed alternately on madder and on their customary food: by these means the constant deposition of osseous matter, and its constant removal, were clearly marked by the white or red colours, while the entire withdrawal of the plant for some days caused the total disappearance of the red hue in the bones of the animals. The French formerly considered the Yellow Bed-straw of much medicinal efficacy in hysteria and epilepsy. The plant is common throughout Europe, enlivening everywhere the fields of Siberia, as it does ours, with its bright blossoms.

It is thought that the name of Bed-straw is derived from the old English word, to straw or strow, and that these plants were used for strewing over floors. Thus we find in churchwardens' accounts of former days various items for "strawenge of yerbes;" but a more direct origin is found in the fact, that straw as well as herbs was formerly used for beds, and that some imaginative monk or nun thought that this plant, from its beauty and sweetness, should form "Our Lady's Bed-straw." The old historian Fitz-Stephen, who was secretary to Thomas à Becket, tells of one who held a manor in Aylesbury on condition of finding litter for the king's bed; namely, grass or herb in summer, and straw in winter, three times in the year, on the king's visit to Aylesbury. In as late a period as the reign of Henry VIII.

the beds were filled with straw, even the king's bed being made of that material.

2. *G. cruciátum* (Cross-wort Bed-straw).—*Leaves* four in a whorl, egg-shaped, hairy; *flowers* corymbose; *fruit-stalks* bending downwards. This species is often called Mugwort, and is a common plant of our hedge-banks and thickets, its hairy or downy stem being about three feet in height. Its dull yellow blossoms appear in May and June, and form little clusters of about eight flowers, which are seated in the axils of the leaves, the upper blossoms having pistils only, the lower ones only stamens. It is well distinguished by having its leaves arranged four together in the form of a cross. It was formerly considered, when bruised, a good remedy for wounds.

* * *Flowers white; root perennial.*

3. *G. saxátile* (Smooth Heath Bed-straw).—*Leaves* about six in a whorl, inversely egg-shaped, pointed; *stem* much branched, smooth, prostrate below. This species, as its name imports, is to be found on open sunny places, as heaths and hill sides, and also on mountains, and it is a common plant. Its stem is much branched, and its numerous and dense panicles of flowers often from June to August whiten the grassy spots by their profusion. The greater number of the white-flowered species have their blossoms in few and scattered panicles, so as to make no great show; but this species, with its milk-white clusters, is, like the Yellow Bed-straw, rendered ornamental by their number. The edges of the leaves are sometimes fringed by a few

prickles pointing forwards. It is usually a low growing plant, but in moist places is sometimes a foot high. It turns black in drying.

4. *G. pusíllum* (Least Mountain Bed-straw).—*Leaves* about eight in a whorl, narrow, lanceolate, and hair-pointed, lower ones somewhat hairy; *panicles* terminal, few flowers; *fruit* slightly granulated. This species is very similar to the last, and chiefly distinguished from it by its more narrow and pointed leaves. It is, however, a rare plant, occurring on limestone soils in several parts of England, and bearing its flowers in July and August.

5. *G. uliginósum* (Rough Marsh Bed-straw).—*Leaves* 6—8 in a whorl, narrow, tapering at both ends, bristle-pointed, their edges as well as the angles of the stem rough with prickles, which point backwards. This species is very frequent by the sides of rivers and on wet meadows. It has much similarity to the following kind, and both plants are often found growing together. It is chiefly distinguished from it by its narrow, sharply pointed leaves. Its slender and brittle stem is rarely more than a foot high, and its panicles of few flowers appear in July and August. It does not turn black in drying. It is to this or a nearly allied species that Charlotte Smith refers, when describing the course of some water nymph down the quiet river.

> "O'er her light skiff, of woven bulrush made,
> The Water-lily lends a polish'd shade;
> White Galium there, in pale and silver hue,
> And Epilobium on the bank that grew,
> Form her soft couch; and as the sylphs divide
> With pliant arms the still increasing tide,

A thousand leaves along the stream unfold;
Amidst its waving swords, in flaming gold,
The Iris towers; and here the Arrowhead,
And Water-crowfoot, more profusely spread,
Spangle the quiet current; higher there,
As conscious of her claims, in beauty rare,
Her rosy umbels rears the flow'ring Rush;
While with reflected charms the waters blush."

6. *G. palústre* (White Water Bed-straw).—*Leaves* from four to six in a whorl, oblong, blunt, tapering at the base; *stem* weak, straggling, more or less rough. This common plant flowers in July and August, bearing its blossoms in loose panicles. It is usually larger than the foregoing species, with which alone it could be confounded, but it varies greatly in different soils and circumstances. In one variety the stem and leaves are almost smooth; and in a second, the nerves at the back and margins of the leaves, and the angles of the stem, are most distinctly beset with prickles, which chiefly bend downwards. The latter form is the *G. Witheringii* of some botanists.

7. *G. erectum* (Upright Bed-straw).—*Leaves* from six to eight in a whorl, lanceolate, and tipped with a spine, the margins having prickles which point forwards; *stem* weak, segments of the corolla somewhat pointed. This is a rare species, flowering in June, and found in some hedges of England and Scotland. It has in some cases narrower leaves, when it is described by some botanists as *G. diffusum*. In other conditions it has been termed *G. aristatum*, or *G. cinereum*.

8. *G. Mollúgo* (Great Hedge Bed-straw).—*Leaves* 8 in a whorl, oblong, tapering at both ends, having a

1. WHITE WATER BED STRAW.
Galium palustre.

2. UPRIGHT B.
G. erectum.

3. SMALL HEDGE B.
G. mollugo.

4. CROSS LEAVED B.
G. boreale.

5. WALL B.
G. parisiense.

6. WARTY FRUITED B.
G. saccharatum.

7. SMOOTH FRUITED B. G.

bristly point and roughish margins. This species, though not frequent in Scotland, is among the common flowers of England, bearing its blossoms in loose spreading panicles, and having long slender stems like the goose-grass. Its prickles, however, point forwards, while those of that plant point backwards. A variety has been found by Dr. Bromfield in the Isle of Wight, with greenish flowers. The plant was, some years since, highly eulogized by M. Jourdain, the Director of the Hospital at Tain in Dauphiny, as a valuable remedy for epilepsy, and marvellous cases have been related of its efficacy, though very little reliance is placed by other medical men on its powers. The roots afford a good red dye, and colour the bones of birds.

9. *G. boreále* (Cross-leaved Bed-straw).—*Leaves* four in a whorl, lanceolate, 3-nerved, smooth; *stems* erect. This species, which is not uncommon on moist rocky places, is easily distinguished by its four leaves placed crosswise, and its fruit rough with hooked bristles. It has straggling stems about eighteen inches long, with many leafy branches, and it bears in June and July its compact terminal panicles of flowers. This plant is by the North American Indians termed *Sawayan*, and the roots are used to dye the porcupine quills with which they embroider the boxes, baskets, and other ornamental articles made of birch bark, so often brought to this country. The roots, after being carefully washed, are boiled gently, and a quantity of the juice of the Mooseberry, Cranberry, or Strawberry, is added to it. The quills are placed in the liquor before it becomes cold, and in most cases quickly acquire a rich scarlet

tint, though occasionally the dye fails, and only a dingy brown colour is produced. This is probably the consequence of too much acid having been mingled with the dye. The Crees use several plants in tinting the quills, taking indiscriminately either this or an allied species for the scarlet hue, and giving the black colour with elder bark, the yellow with a juice obtained from the Dutch myrtle, and various other tints by means of lichens which abound on the barren rocks. Both the quills and the skins which the Indians prepare for their dresses, are also dyed yellow with a colour derived from a species of Hellebore, growing commonly in the woods throughout Canada, and called by the French *Tissavoyaune jaune.*

* * * *Roots annual; flowers white or greenish.*

10. *G. Parisiénse* (Wall Bed-straw).—*Leaves* about six in a whorl, lanceolate, bristle-pointed, prickles on the margins pointing forwards; *flower-stalks* axillary; *stem* slender, rough, with prickles bending backwards; *fruit* in one variety bristly, in another smooth. This is a plant inhabiting dry sandy soils and walls, found, though rarely, in Kent and other parts of the east and south-east of England.

11. *G. saccharátum* (Warty-fruited Bed-straw).—*Leaves* six in a whorl, lanceolate, the prickles on their margins pointing forward; *flower-stalks* 3-flowered; *fruit* large, rough, with raised tubercles. This is a rare plant growing in corn-fields, and is found near Malton in Yorkshire, in the Carse of Gowrie, and near Forfar. The stems are trailing, and the flowers, which expand from

June to August, are small and of a pale yellow colour It is a doubtful native, and no specimen has been seen of late years in this country.

12. *G. spúrium* (Smooth-fruited Corn Bed-straw).—*Leaves* from six to eight in a whorl, narrowly lanceolate. with prickles on the margin and mid-rib pointing backwards; *flowers-stalks* axillary, with from three to nine flowers; *fruit* smooth or rough, on straight, forked stalks. This rare species is found in cultivated fields, and is probably not wild. It has, in its rough-fruited variety, been found in Essex and Cambridgeshire, and closely resembles the goose-grass (*G. Aparíne*), but is distinguished by its more numerous green flowers, its floral leaves being solitary or in pairs, and its much smaller fruit. The smooth-fruited kind was found near Forfar.

13. *G. tricórne* (Rough-fruited Corn Bed-straw).—*Leaves* from six to eight in a whorl, narrow, lanceolate, with marginal prickles turning backwards; *stem* with prickles turning backwards; *flower-stalks* axillary, 3-flowered; *flowers* small; *fruit* large and covered with small granulations. This species flowers from June to August, on dry chalky fields, in several counties of England.

14. *G. Aparíne* (Goose-grass or Cleavers).—*Leaves* from six to eight in a whorl, narrowly lanceolate, their margins as well as the angles of the stem rough, with prickles pointing backwards; *flower-stalks* axillary, about 3-flowered; *fruit* covered with short hooked bristles. Those who know anything about wild flowers will hardly need a description of this common plant; for there is

scarcely a hedge-bank on which its stems and starry leaves may not be seen straggling among the grass, or climbing by the help of the bushes, and it often intrudes itself into the garden. Leaves, stems, and globular fruits are all bristly, and the latter often cling to the clothing of the country rambler. Several of our popular names indicate this habit of the plant: thus it is called Cleavers, Scratchweed, and Catchweed. The Greeks termed it *Philanthrópon*, fancifully attributing its clinging habit to a love of mankind, though, of course, the cause is purely mechanical. Dioscorides tells that it was used in his time as a kind of filter for straining milk, and Linnæus says it is commonly so used in Sweden. In our own country places it is occasionally thus employed, when a sieve is not at hand, and it answers the purpose exceedingly well, by the roughness of its leaves and stalks. In former days, when country dwellings were less plentifully supplied with household conveniences, this and other rustic contrivances were probably in much more frequent use than in modern times, and the direction of the poet was then more applicable than now:

> "For first an osier colender provide
> Of twigs thick wrought: such toiling peasants twine,
> When through streight passages they strein their wine."

This plant is said to have its name of Goose-grass, from the fondness of that bird for its herbage. Its expressed juice has long been justly praised as a purifier of the blood. The plant is cut in small pieces, also, and boiled in broth as a spring drink, or it is pounded in a mortar, and the juice taken while fresh. Its out-

ward application has, even in modern days, been advised by eminent surgeons, and its use in this form was once very general; and, besides being prescribed as a remedy for those "bitten by serpents," was deemed a certain cure for wounds. An old writer tells us that it was "familiarly taken," in his day, "as a broth, to keep them lank and lean that were apt to grow fat;" though what particular advantage either to health or beauty was gained by being lank and lean our good herbalist does not specify. The interior of the seeds is somewhat horny, and they form, when roasted, a good substitute for coffee. From some slightly stimulating powers which the beverage made from them is thought to possess, it has been suggested that they contain the principle of caffeine, which renders the Arabian berry so refreshing in its influences; but further analysis is needed to decide this. Professor Burnett says, "Our peasants would do well to set their idle children to collect the seeds, which are to be found in profusion in every hedge;" but if the leaf of the coffee-tree should be found, as has been recently asserted, to contain the aromatic and stimulating properties of the berry, these substitutes for coffee will be little needed. Our Goose-grass is found throughout Europe and North America, as well as in the north of Asia. A tuberous-rooted species of Galium (*G. tuberósum*) is cultivated in China as a dietetic vegetable, and the tubers, either ground or cooked whole, are described as forming a wholesome and agreeable vegetable.

3. Aspérula (Woodruff).

1. *A. odoráta* (Sweet Woodruff).—*Leaves* from 6 to 8 in a whorl, lanceolate ; *fruit* bristly ; *root* perennial. Plentiful as this fragrant plant is in many of our woods, yet in others it is altogether unknown. We have seen it in Kent, covering large extents of wooded land, its bright green stems surrounded by coronals of richly verdant leaves, and surmounted in May by its beautiful little clusters of blossoms. The small flowers, white, or slightly tinged with pink, seem firm and compact as if cut out of wax. The leaves are deliciously fragrant with the odour of newly mown hay, but this is scarcely perceptible while the plant is growing. When gathered, the warmth of the hand soon brings forth the aroma, and the dried plant will retain its odour for many years. The name of Woodruff, or, as it was formerly spelt, Wooderoofe, or Woodrowe, is a corruption of Woodrowel, and was given, according to Turner, because "its leaves represent certain rowelles of sporres." One of the old modes of spelling the word is still commemorated in the country rhyme yet handed down from generation to generation by cottage children :—

> "Double U double O double D E,
> R O double U double F E."

Gerarde observes of this plant, "Woodrooffe hath manie square stalkes full of joynts, and at everie knot or joynt, seven or eight long narrow leaves, set round about like a starre, or the rowelle of a spurre. The flowers growe at the top of the stemmes, of a white

colour, and a very sweete smell, as is the rest of the herbe, which being made up into garlandes and bundles hanging up in houses in the heat of summer, doth very well attemper the aire, coole and make freshe the place, to the delight and comfort of such as are therein. Woodrooffe is named of divers, *Aspergula odorata*, of others *Cordialis* and *Stellaria;* in English, Wooderooffe, Woodrowe, and Woodrowell. It is reported to be put into wine to make a man merrie, and to be good for the heart and liver." We know, too, from churchwardens' accounts of the reign of Edward IV., that "Rose garlandis and Woodrowe garlandis," were hung in churches.

The Woodruff generally grows very closely around the roots of trees, and on a soil so completely formed of vegetable mould, that, as some writer has remarked, it might almost be thought a parasite. The foliage imparts a very pleasant flavour to wine, but in our days and country it is seldom mingled with it, except in villages. It is often, however, laid in drawers among linen or clothes, to which it not only imparts a sweet odour, but serves also as a preservative from moth. Ladies often use it for the contents of ornamental scent bags. In Germany the plant is much employed in flavouring liqueurs. The Germans also gather it in May for the purpose of making a delicious beverage, which they call May drink. A gentleman, known to the author, was travelling with a friend in Germany, when, stopping at an hotel, this May drink was brought as a refreshment to the travellers. They inquired of what the pleasant beverage was composed, and were informed

that sugar, Rhine wine and Sweet Woodruff were the ingredients. Next morning, at breakfast, the gentleman missed his companion, and was, some hours after, amused to see him returning to the hotel, accompanied by a peasant laden with a basket of the roots of the Sweet Woodruff, which he had patriotically determined to transplant to the woods of his native land, that Englishmen might henceforth enjoy the delicious May drink. It was not without some disappointment that he heard from his friend that his early morning labour was wasted, and that he had only need to walk into some woods within a mile of his own home, to find the plant as plentiful as in those of Germany.

The Sweet Woodruff is eaten by cattle and horses. It contains an acid principle, with much fixed alkaline salt; and its odour, like the similar one of the Meadow-grass (*Anthoxánthum odorátum*), is owing to the benzoic acid which it contains. Its power of "making the heart merrie," which our fathers ascribed to it, must, if not altogether imaginary, be owing to the slightly exhilarating principle of theine, to which we owe the refreshing powers of the Chinese-tea, that, as Cowper says, "cheers, but not inebriates," and a smaller portion of which is possessed by the foliage of the Woodruff.

2. *A. Cynánchica* (Small Woodruff, or Squinancy-wort).—*Leaves* very slender, 4 in a whorl, uppermost whorls very unequal; *fruit* granular and rough; *root* perennial. The general appearance of this plant differs very much from that of the fragrant species. Its leaves are smaller and narrower, and its dense clusters of white,

or more frequently pale-pink flowers are much handsomer. It grows on warm sunny banks, on open downs, or chalk cliffs, and is a common plant on limestone soils. The stems rarely exceed four inches in height, and the flowers expand in June and July. The odour of this herb is truly disagreeable, but its large patches, when in flower, are very ornamental to the short pasture grasses among which it grows. Its specific name, taken from the Greek, and signifying to choke, as well as its English name of Quinsey-wort, or Quinancy-wort, refer to its ancient uses in disorders of the throat.

3. *A. arvénsis* (Field Woodruff).—*Leaves* from 6 to 10 in a whorl, very slender, lanceolate, and blunt; *flowers* in a terminal cluster, surrounded by long bracts, fringed with delicate hairs; *stem* erect, square. This plant was probably never truly wild in this country, though found some years since near Devonport. The flowers are bright blue, expanding in June, the fruit large and smooth.

4. Sherárdia (Sherardia, or Field Madder).

1. *S. arvénsis* (Blue Sherardia).—*Leaves* about six in a whorl, lanceolate, acute, their margins rough; *flowers* in small umbels, seated in the terminal leaves; *stems* branching and spreading; *root* annual. Many persons, while wandering in the country, pass by this small plant, but the lover of wild flowers regards its pretty little cluster of pale lilac blossoms with interest; and the botanist looks with favour on a plant destined to commemorate one of our greatest botanical collectors.

The valuable Herbarium of James Sherard is still preserved at Oxford, while the noble garden of Sherard at Eltham, in Kent, has been immortalised by having given rise to the "Hortus Elthamensis" of Dillenius. The plant is so small that one would fain have commemorated a good botanist by a finer flower, but it is unimportant, as the work of Dillenius is an enduring monument to his fame. The plant abounds in the ridges of corn-fields, and on dry banks, especially where the soil is of gravel, flowering from April to October.

Order XLIV. VALERIANEÆ.—THE VALERIAN TRIBE.

Calyx superior, finally becoming a border or pappus to the fruit; *corolla* tubular, 3—6-lobed, sometimes irregular and spurred at the base; *stamens* from 1 to 5, inserted into the tube of the corolla; *ovary* with from 1 to 3 cells; *fruit* dry, crowned with the calyx, not bursting, 1-seeded, two of the cells being empty. This Order consists of herbaceous plants with opposite leaves, without stipules, having in most cases a powerful odour, and a bitter and tonic principle. Many plants of other countries contained in this Order possess important properties. The true Spikenard of the ancients is a plant of this family. They are mostly natives of temperate climates, often growing on mountains. Though the species are rare in Africa and North America, they

abound in South America, the north of India and Europe.

1. Centránthus (Spur Valerian).—*Corolla* 5-cleft, spurred at the base; *stamen* 1; *fruit* crowned with a feathery pappus. Named from *centron*, a spur, and *anthos*, a flower.

2. Valeriána (Valerian).—*Corolla* 5-cleft, bulged at the base; *stamens* 3; *fruit* crowned with a pappus. Name from the Latin *valeo*, to be powerful, from its medicinal properties.

3. Fédia (Corn Salad).—*Corolla* 5-cleft, bulged at the base; *stamens* 2—3; *fruit* crowned with the calyx. Name of uncertain origin.

1. Centránthus (Spur Valerian).

1. *C. rúber* (Red Spur Valerian).—*Leaves* egg-shaped, pointed; *spur* much shorter than the tube of the corolla; *root* perennial. This plant, with its large handsome clusters, varying from delicate pink to rich deep red, is a very common garden flower. It is not a truly British species, but is naturalized in many chalk-pits and limestone quarries; and it often grows on old walls, where it is the outcast of the flower-bed, or sometimes on castle steep or church tower. The gardener calls it by various familiar names, as Pretty Betty, but of old it was called Setewall. From several sources we know it was a plant of some renown. The old writers seem to include the great wild Valerian in the same name, but as this species grows on walls, it originally, doubtless, belonged to this.

The stem of this species is from one to two feet high, and its flowers appear from June to September; a variety with white blossoms sometimes occurring. The leaves are smooth and covered with a sea-green powder. The French term the plant *Valeriana*, the Germans call it *Baldrian*, and the Russians *Balderian*. Its native country is the south of Europe, and in Sicily the leaves are commonly eaten as a salad, and the seeds of some species were formerly used in embalming the dead.

2. Valeriána (Valerian).

1. *V. dióica* (Small Marsh Valerian).—*Stamens* and *pistils* on different plants; *root-leaves* egg-shaped, stalked; *stem-leaves* pinnatifid, with a large terminal lobe, serrated; *root* perennial. This small species is common on moist meadows, its erect and unbranched stem being about a foot high, and surmounted in May by its corymb of pale pink flowers, of which the stamen-bearing corollas are larger than the others.

2. *V. officinális* (Great Wild Valerian).—*Leaves* all pinnatifid; *leaflets* lanceolate, nearly uniform; *root* with short subterranean shoots. A variety of this plant, having from seven to ten pairs of leaflets, either entire or toothed at the margins, and with spreading leaf-stalks, is described by some writers as *V. procurrens;* while another form of the plant, having the lower and middle leaf-stalks erect and closely pressed, and its toothed and serrated leaves of four or five pairs of leaflets, has been termed *V. sambucifolia*. It is pleasant, during June, to wander by the river bank, watching the gauzy-winged

insects as they dance in the sunbeams, and the swallows which skim over the pool, or the scarcely less graceful water-wagtails hovering above the water. Few spots of our landscape are at this season more attractive to the lover of Nature than such a one as Chaucer seems to have loved so well:—

> "A river in a greene mede,
> There as sweetnesse evirmore inough is,
> With flowre white and blewe, yellowe and rede."

And few of the flowers gathering there among grass and sedge are more conspicuous than the tall Valerian, which grows on the river's brink, or just within the water. It is commonly three feet high, and sometimes, when the river runs over a chalky soil, it is four, or even five feet in height. In such cases, as the eye follows the windings of the waters, we may see the plant giving its hue to the margin by its delicately tinted clusters of pale pink, becoming almost white when fully developed, and mingling, perhaps, with other specimens from which the flowers have passed away, leaving behind the clusters of feathery down so soon to be widely scattered by autumnal winds. To many of us the powerful scent of the Valerian is unpleasing, but this odour, still stronger in the roots, is much prized in the East, some of the most valued perfumes being made from the roots of various species. The celebrated Celtic Spikenard (*V. Celtica*) is much used in Eastern perfumery, and in baths; and the *V. Jatamansi* is believed to be the Spikenard of the Scripture writers and the Nardus of the ancients; and it is still used in the unguents of the

East, as it was when Mary poured it on the Saviour from the costly box of alabaster. Sir William Jones, by his knowledge of the Sanscrit and Hindoo names of the plant, identified it with the ancient spikenard, but he had no access to the Himalayan Mountains where it grew. Dr. Royle, however, who was several years later in charge of the East India Company's garden at Seharumpore, not far from the foot of the Himalayas, made further inquiries into the subject. He then learnt that Jatamansi, better known in India by the name of Balchur, was yearly brought down in considerable quantities as an article of commerce to the plains of India, and having procured fresh roots, he planted them in the Botanic garden. He then found the plant to be a Valerian. It was called *Nardostachys Jatamansi* by M. De Candolle, and there seems no reason to doubt that this was the *nard* or *nerd* of the ancients. The Arabs compare the root to the tail of an ermine, which it much resembles, this appearance being produced by the circumstance that the woody fibres of the leaf and its footstalk are not decomposed in the cold and comparatively dry climate where they are produced, but remain, and thus form a protection for the plant from the severity of the weather. Dr. Joseph Hooker, when in the Himalayan Mountains, received this plant with the eggs and rice brought to him, as a gift. He says that it smells strongly of patchouli. Gerarde says of our wild Valerian, "It hath been had, and is to this day among poore people of our northern parts, in such veneration, that no brothe, pottage, or physicall meates are worth anything if Setewall were not at an end;

1. COMMON CORN SALAD
Fedia olitoria

2. CARINATED C. S.
F. carinata.

3. SHARP-EARED C. S.
F. auricula.

4. SMOOTH NARROW-FRUITED C. S.
F. dentata.

wherefore some woman poet or other hath made these verses :—

> ' They that would have their heale
> Must put Setewall in their keale.' "

But before the woman poet wrote this, Chaucer had alluded to " Canell and Setewal of pris," and had elsewhere used this comparison :—

> " But he himselfe was swete as any roote
> Of licoris, or any Setewall."

Country people of our days commonly use the leaves as an application to wounds; hence it is often called All-heal. Several old writers, as Michael Drayton, refer to its healing virtues. Its odour is peculiarly agreeable to cats; they chew the roots and leaves eagerly, and appear to be intoxicated by the effects.

3. *V. Pyrenáica* (Heart-leaved Valerian). — *Leaves* heart-shaped, toothed, and serrated, stalked; upper ones with 1 or 2 pair of small lanceolate leaflets; *root* perennial. This plant is apparently naturalized in some of the Scottish woods. It is a native of the Pyrenees, and being cultivated in gardens, has established itself in this kingdom.

3. Fédia (Corn-salad).

1. *F. olitória* (Common Corn-salad).—*Leaves* long and narrow, wider towards the end, and somewhat toothed near the base; *flowers* in leafy heads; *capsule* inflated, crowned by the three calyx teeth; *root* annual. This plant, common in corn-fields and on dry banks, is not very attractive. Its flowers are very small, white, and are more or less tinted with blue or lilac, occurring in May. The stems are from four to eight inches high,

repeatedly two-forked, and the leaves are of a pale delicate green. The French call the plant *Mâche, Salade de prêtre,* and *Salade de chanoine.* It was formerly called in England White Pot-herb, and Lamb's Lettuce. Its young leaves taste like lettuce, and are still sometimes cultivated for salad, but the far larger size of the garden lettuce renders it a more desirable plant for the kitchen garden, though the wild herb yields an earlier salad, for the leaves are fit to be gathered by March. There is no doubt, from its old French names, that it was one of the vegetables reared in the kitchen garden of the monastery. Gerarde says of it, "In winter and the first months of spring, it serves for a salad-herbe, and is with pleasure eaten with vinegar, salt, and oile, as other sallades be, among which it is none of the worst."

2. *F. carinâta* (Carinated Corn-salad).—*Fruit* oblong, boat-shaped, crowned with a straight tooth; the two empty *cells* thin, and curving inwards at the edge; *flowers* in dense cymes; *root-leaves* tapering at the base; *stem-leaves* oblong; *root* annual. This very rare plant is found on some hedge-banks of England, bearing its pale-blue flowers from April to June.

3. *F. Aurícula* (Sharp-fruited Corn-salad).—*Fruit* subglobose, crowned with the single entire, or three-toothed limb of the calyx; empty *cells* rounded on the back, larger than the fertile one, inflated; *flowers* in lax cymes. Plant annual. This species is very similar to the last, differing from it chiefly in its broader and more inflated fruit and larger empty cells. It occurs occasionally on cultivated lands, flowering from June to August.

4. *F. dentáta* (Smooth Narrow-fruited Corn-salad).—*Capsule* egg-shaped, somewhat flat, 2-ribbed in front, and sharply pointed, crowned with the unequally toothed calyx; *root* annual. This plant has a great number of varieties, which, differing as to the form, or in the smoothness or hairiness of the capsule, have been described by some botanists as so many species. It occurs in corn-fields and on hedge-banks, but is not a common plant, except in the west of England. Its flowers are of a pale flesh-colour, usually in corymbs, with a solitary blossom seated in the forks of the stem. It is a less tender plant than the Corn-salads usually are, and its flowers appear in June and July.

Order XLV. DIPSACEÆ.—THE TEAZEL TRIBE

Calyx superior, surrounded by several more or less rigid calyx-like bracts; *corolla* tubular, with 4—5 unequal lobes; *stamens* 4, the anthers not united; *style* 1; *stigma* not cleft; *fruit* dry, 1-seeded, crowned by the pappus-like calyx; *flowers* in heads. The plants of this Order are all herbaceous or under-shrubs. They are chiefly natives of the south of Europe, Barbary, the Levant, and the Cape of Good Hope, rarely growing on mountains. Their properties are not remarkable, and the Fuller's Teazel is the only plant of any great importance, though some species of Scabious possess a small degree of astringency.

1. Dípsacus (Teazel).—*Heads* with numerous general bracts at the base; outer *calyx* forming a thickened margin to the fruit, inner cup-shaped, entire; *receptacle* with rigid awns; *fruit* with four sides. Name from the Greek *dipsao*, to thirst, because the leaves hold water.

2. Scabiósa (Scabious).—*Heads* with numerous general bracts at the base; outer *calyx* membranaceous and plaited, inner of 5 bristles; *receptacle* scaly; *fruit* nearly cylindrical. Name from the Latin *scabies*, the leprosy, because some of the species were used as remedies for that disease.

3. Knaútia (Knautia).—*Heads* with numerous general bracts at the base; outer *calyx* minute, with 4 small teeth, inner cup-shaped; *receptacle* hairy; *fruit* 4-sided. Name in honour of Christopher Knaut, a German botanist.

1. Dípsacus (Teazel).

1. *D. sylvéstris* (Wild Teazel).—*Leaves* opposite, united at the base and undivided; *scales* of the receptacle straight at the extremity. Plant biennial. In many of our woods during the winter months, there is scarcely an object more conspicuous than the chaffy bristly heads of this Wild Teazel. Hundreds of them, standing up on stout stems nearly six feet high, may be seen looking so like the brooms used in cleansing ceilings, that we wonder not to hear the cottager call the plant Wood-broom; while another country name, Shepherd's Staff, is not inappropriate. The large leaves, united at their base, form a hollow which serves to hold the rain or

dews, and sometimes we have found as much as half a pint of clear liquid deposited in this leafy cup, in which many a luckless insect lay drowning. To some lover of classic lore, this circumstance suggested the names by which it is still often called, Venus's Bath, or Venus's Cup. The thirsty traveller, during July, might be glad to avail himself of the refreshment of this liquid, and in early times it was collected to serve as a cosmetic, and as a cure for inflamed eyes. The larva of a small insect which infests the head of the Teazel, is said, by Lemery, to be of much use in the cure of intermittent fevers. This insect was long considered to "charm" away agues, and Gerarde tells us of charms used for the cure of this malady, which may make us thankful for the improvement of medical science. "It is needlesse," he says, "here to alledge those things that are added touching the little wormes found in the head of the Teazel, and which are to be hanged about the neck, for they are nothing else but most vaine and trifling toies, as myselfe have proved a little before the impression hereof, having a most grievous ague, and of long continuance. Notwithstanding physick charmes, these wormes hanged about my necke, spiders put into a walnut-shell, and divers such foolish toies that I was constrained to take by fantasticke people's procurement; notwithstanding, I say, my helpe came from God Himselfe, for these medicines, and all other such things, did me no good at all." Even in our own days, some of these practices have been used, for Kirby and Spence relate that nine of these larvæ, enclosed in a goose-quill, or reed, are commonly worn for agues.

The flowers of the Teazel are to be seen in July growing on the large conical heads. They are of purplish lilac colour, not expanding all at once, but in irregular patches.

2. *D. Fullónum* (Fuller's Teazel). — *Leaves* sessile, undivided; *scales* of the receptacle hooked at the extremity; *involucres* spreading, or turning downwards; *root* biennial. The chief difference between this and the foregoing species consists in the hooked bristles, but the flowers are also generally paler in colour. As the hooks disappear when the plant is grown on poor soils, there is much reason to believe that it is but a variety of *D. sylvéstris*. Though occurring occasionally in waste places and on hedge-banks, the Fuller's Teazel cannot be regarded as truly wild, and having been long cultivated for the use of the cloth manufacturers, it is often found apparently wild near the Teazel fields.

In some of our northern counties, as well as in Wiltshire, Essex, Somersetshire, and Gloucestershire, large quantities of the Teazel are planted that their chaffy heads may be used in carding wool. No mechanical contrivance answers this purpose so well as to supersede this primitive method of dressing woollen cloth; and each piece of cloth is found to consume from 1,500 to 2,000 Teazel heads. The heads are fixed round a large wheel, which is made to revolve in such a way that the awns may, as it is termed, "tease" the nap of the cloth. Dyer, in his poem, "The Fleece," alludes to the treatment which the cloth receives after having been thoroughly wetted:—

> "Then up-hung on rugged tenters to the fervid sun,
> Its level surface reeking, it expands,

And brightening in each rigid discipline,
And gathering worth, as human life, in pains,
Conflicts and troubles. Soon the clothier's shears
And burler's thistle skims the surface sheen."

The Teazel is usually grown by small farmers or cottagers, and its produce is very uncertain, being much affected by the season. There is also considerable trouble in drying the heads so as to preserve the hooks from breaking off. The large heads are technically termed "Kings," and the smaller "Princes;" the latter are better adapted for the finer cloths, while the larger are used for coarse thick fabrics. In Essex it was some years since customary to sow Caraway along with the Teazel. The Teazel gatherers during July or August collect the heads into bundles for the market. Manufacturers rather give the preference to the Teazels reared in Gloucestershire, in which county they are said to have been earliest planted. They are believed to have been cultivated first in this country about the latter part of the reign of Edward III.

The French call this plant *Chardon à Foulon;* the Germans, *Kardendistel;* the Italians, *Dissaco;* the Dutch, *Vollers Kaarden;* and the Spaniards, *Cardeucha;* most of the European names, like our own, referring to its use. This is very ancient, and either this or some similar plant seems to have been used by the celebrated Roman fullers, whose occupations gave employment to so large a number of people. Beckmann says that the fullers received the cloth as it came from the loom, that it might be "scoured, walked, and smoothed." This "walking" was effected by stamping it with the feet

The rough wool raised by this operation was combed off partly by the skin of a hedge-hog, and partly by some plant of the thistle kind, in order to give the cloth a nap. Though the Teazel is not a thistle, yet it was probably considered one in former days, and its old English as well as German name still hints at its connexion with the thistle tribe.

It is remarkable that the pile or nap of the cloth should in India be drawn out by means of a plant, for Dr. Joseph Hooker says, that in the Himalaya the blankets were made of goats'-wool, teased into a satiny surface by little Teazel-like brushes of bamboo.

It is likely that the awns of the Teazel are affected by the moisture or dryness of the atmosphere, and we find old writers recommending the plant for hygrometrical purposes. "Tezils, or Fuller's thistle," says Willsford, "being gathered, and hung up in the house whne the aire may come freely to it, upon the alteration of cold and windy weather will grow smoother, and against rain will close up his prickles."

3. *D. pilósus.*—*Leaves* stalked, with a small leaflet at the base on each side; *stem* angular, rough, with small prickles turning downwards; *flower-stalks* bristly; *leaves* egg-shaped, pointed, and serrated; *root* biennial. The Teazels hitherto described could not be mistaken for any other plants. This species has, however, at first sight much the appearance of a Scabious. It is not a common plant, but grows here and there in moist hedges in England, and still less frequently in Scotland. The author has found it about Wouldham, in Kent, and it occurs in various parts of Norfolk, Suffolk, Sussex, Berkshire, and

Surrey. The heads of flowers are nearly globose, rarely so large as a walnut, the bristly receptacle being studded, in August and September, with nearly white corollas, having remarkably protruding anthers. The stem is three or four feet high, branched, and leafy; the whole plant is very rough. It has been commended as affording a sudorific medicine.

2. Scabiósa (Scabious).

1. *S. succísa* (Devil's-bit Scabious).—*Corolla* 4-cleft, nearly regular; *heads of flowers* nearly globose; *leaves* of the involucre in two or three rows; *root-leaves* numerous; *stem-leaves* usually few; *root* perennial. The rich purplish blue flowers of this Scabious may be seen from July to October, growing among the short grasses of the dry pasture lands of our hill-sides, and standing on a stem a foot or more in height. It is particularly abundant on chalky lands, but is found on other soils, and adorns heaths and meadows. The short blackish root of the plant terminates abruptly, being what the botanist terms *premorse*, and looking exactly as if bitten off, though this condition is rarely, if ever, apparent during the first year of growth. The notion once prevailed very generally that, to use the words of an old writer, "The Divile for envie that he beareth to mankind, bitt it off, because that otherwise it would be good for manie uses." Now that all can read the Scriptures, and trace there all that has ever been revealed concerning the Spirit of Darkness, the Great Enemy of man, these notions of our fathers are seen plainly enough to be absurd; yet learned men of those times gravely declared

them, and ignorant men received them with unquestioning faith. Another old herbalist says, "The herbe or roote (all that the Devill hath left of it) being boiled in wine, and drunke, is very powerful against the Plague, and all Pestilential diseases, and poisons also, and the bitings of venemous beastes; it helpeth also those that are inwardly bruised by any casualty, or outwardly by falls or blows." He states, too, that it was bitten away by the devil, and gives the strange reason, "for sure he was not troubled with any disease for which it was proper." Gerarde, however, very properly describes these opinions as the sayings of "old fantasticke charmers," but he places great faith in the efficacy of the herb. The strange and, as it appears to us, profane notion, seems to have been also shared on the Continent, for one of the French names of the plant is still *Mors de Diable*, and the Dutch call it *Duvelles bit*. It is, however, more generally in France now called *La Scabieuse*, and in Holland *Schurftkruid*. It is the *Scabiosa* of the Italians; the *Escabiosa* of the Spanish; and the *Skabiose* of the Germans; these names all referring to its general use in cutaneous disorders, for which it is highly extolled by Ettmüller. The root is slightly bitter and astringent. Linnæus says that the dried leaves are used to dye wool of yellow or green colour. The beautiful and fragrant Scabious of our gardens, (*S. atro-purpúrea*,) the Mourning Bride, as the flower is often called, affords an excellent green dye, and it has been suggested that it might yield a good ingredient for tanning leather.

2. *S. columbária* (Small Scabious).—*Corolla* 5-cleft, the outer flowers longest; *heads* nearly globose; *root-*

leaves oblong, variously cut, upper leaves pinnatifid; *root* perennial. This species is common on grassy lands, especially on those of the east of England. Its purplish lilac flowers have a more radiant form, as if more fully expanded, than those of the premorse kind. Its leaves, too, are of a lighter hue, the flowers much paler, and the whole plant stouter. Its stem is about a foot high, and it flowers in July and August.

3. Knaútia (Knautia).

1. *K. arvénsis* (Field Knautia).—*Lower leaves* simple, slightly serrated, and hairy; *stem-leaves* pinnatifid; *stem* not much branched, bristly; *inner calyx* with a fringe of 8—16 awned teeth; *root* perennial. This tall and handsome plant often overtops the ripening corn in June and July, or is levelled with it by the reaper a month later. The flowers are so much like those of the Scabious, that the plant was long retained in that genus, and called *Scabiósa arvénsis*. It grows, too, very commonly in meadows in all parts of the kingdom, and we might say with the American poet, Lowell, as we look at some gathered or stray blossom—

> "Then think I of deep shadows in the grass,
> Of meadows where in sun the cattle graze;
> Where as the breezes pass,
> The gleaming rushes bend a thousand ways:—
> Of leaves that slumber in a cloudy mass,
> Or whiten in the wind:—of waters blue,
> That from the distance sparkle through
> Some woodland gap:—and of a sky above,
> Where one light cloud, like a stray lamb, doth move."

The flowers of the Knautia are large and convex, the outer florets being larger than the inner ones, and cut into unequal segments. It forms a beautiful addition to the wild nosegay gathered at this season, and it is amusing to see how, under the influence of tobacco smoke, the petals gradually assume a rich light green colour, and seem at first uninjured by the process, though they wither soon after. Several bluish lilac flowers are affected in a similar way by the influence of this smoke; a purple violet, too, if placed in a scent-bottle, containing smelling salts, soon assumes a most singular and beautiful green tint.

Order XLVI. COMPOSITÆ.—COMPOUND FLOWERS.

Calyx tube adhering strictly to the ovary, the limb mostly becoming a pappus, that is either a chaffy margin of the fruit, or a tuft, or ring of bristles, hairs, or silky feathers; *corolla* regular or irregular, tubular or strap-shaped; *stamens* 5, united by their anthers; *ovary* inferior, 1 to each style, 1-celled; *style* simple, with a simple or 2-cleft stigma, sheathed by the tube of the anthers; *fruit* a solitary erect seed, crowned by the pappus, which usually consists of a plume of simple or serrated feathery hairs, sometimes elevated on a stalk, but which is in other cases merely a chaffy margin. The flowers of this Order are called Compound, because

they consist of a number of florets, enclosed within a calyx-like involucre, composed of a number of bracts. These florets are inserted upon a broad receptacle, which is either furnished with chaffy scales or naked. This Order is divided into three Sub-Orders.

Sub-Order I. Cichoraceæ.—The Chicory Tribe.

In this the florets are all strap-shaped and perfect; that is, each contains 5 stamens and a pistil, which is not swollen beneath its fork. The plants mostly abound in milky juice. Some are slightly astringent, others bitter, but they are chiefly remarkable for their narcotic properties. They are generally innocuous plants, and their bitterness being lessened by culture, they form in some cases wholesome vegetables. The prevailing colour of the British species of this division is yellow, as in the Dandelion, Goat's-beard, and Hawkweeds; but the Alpine Sow-thistle and the Salsafy have purple, and the Chicory bright blue flowers.

Sub-Order II. Cynarocephalæ.—The Thistle Tribe.

In this division the florets form a convex head, and are all tubular and perfect, except in *Centauréa*, in which the outer florets are larger than the inner, and are destitute of stamens and pistils. The style is swollen below its branches. The flowers are usually purple, often varying to white; but the Carline thistle is yellow, and the Corn-flower bright blue. Their properties are bitter and tonic.

Sub-Order III. Corymbiferæ.

This Sub-Order is composed of two Groups. In the first the florets are all tubular, 5-cleft, having stamens and pistils, and forming a flat head, the style not swollen below the stigma. These form the group *Tubifloræ*. In the second division, termed *Radiatæ*, the central florets are tubular, 5-cleft, having stamens and pistils: the outer florets are strap-shaped, forming a ray, and furnished with pistils only: the style not swollen below the stigma. *Senecio vulgaris*, the common groundsel, has no rays. The flowers of the first division of this Sub-Order are mostly yellow; but some, like the Hemp-agrimony and Butter-bur, have flesh-coloured flowers. A powerfully bitter principle resides in many of the plants, as in the Wormwood. In the *Radiatæ*, the prevailing colour of the disk is yellow, and of the ray white or yellow. Of the former, the Daisy is an example; the latter may be seen in the Golden Rod and Corn-marigold. In one instance, the Yarrow, both disk and ray are white; and in some, as the Michaelmas Daisy, the petals of the ray are purple. Several tonic and bitter plants, like the Chamomile, are found in this group.

The Order of Compound flowers is very extensive. The number of genera is said by Professor Lindley to amount to 1,005, and of species to 9,000; the Compositæ comprehend about one-tenth of all known plants; their proportions varying in different parts of the world. In temperate regions they are mostly herbaceous plants, but near the equator they are shrubs or trees.

SUB-ORDER I. CICHORACEÆ.—CHICORY TRIBE.

All the florets strap-shaped, having stamens and pistils.

1. TRAGÓPOGON (Goat's-beard).—*Involucre* simple, of 8—10 long scales united at the base; *receptacle* dotted; *fruit* rough, with longitudinal ridges tapering into a beak; *pappus* feathery. Name in Greek signifying a goat's beard, from the bearded fruit.

2. HELMÍNTHIA (Ox-tongue).—*Involucre* of about 8 equal scales, surrounded by 3—5 leaf-like bracts; *receptacle* dotted; *fruit* rough, with transverse wrinkles, rounded at the end and beaked; *pappus* feathery. Name from the Greek, *helminthos*, a small worm, from the form of the fruit.

3. PÍCRIS.—*Involucre* of many compact and upright equal scales, with several small narrow ones spreading at the base; *fruit* rough, with transverse ridges, not beaked; *pappus* of two rows, the inner one only feathery. Name from the Greek, *picros*, bitter.

4. APÁRGIA (Hawk-bit).—*Involucre* with the scales imbricated * unequally, the outer scales smaller, black and hairy, in several rows; *receptacle* slightly dotted; *fruit* tapering to a point; *pappus* of one row, feathery. Origin of name uncertain.

5. THRÍNCIA (Thrincia).—*Involucre* of one row, with a few scales at the base; *receptacle* slightly dotted; *fruit* of the outer florets forming a short scaly cup, of the rest long and feathery. Name from the Greek,

* *Imbricated*, laid one over the other, like tiles on a house.

thrincos, a battlement, from the turret-like form of the seed-crown of the marginal florets.

6. Hypochéris (Cat's-ear).—*Involucre* oblong, imbricated; *receptacle* chaffy; *fruit* rough, often beaked; *pappus* feathery, having often a row of short bristles outside. Name in Greek, denoting its fitness for hogs.

7. Lactúca (Lettuce).—*Involucre* oblong, its scales membranous at the margin, and imbricated, containing but few flowers; *receptacle* naked; *fruit* flattened, beaked; *pappus* hairy. Name from *lac*, milk, from its milky juice.

8. Mulgédium (Blue Sow-thistle).—*Involucre* double, many-flowered, inner of one row of equal scales, outer of short lax ones overlapping each other; *receptacle* naked; *pappus* brittle. Named from *mulgeo*, to milk, from its milky juice.

9. Sónchus (Sow-thistle).—*Involucre* with 2 or 3 rows of unequal imbricated scales, swollen at the base, and few-flowered; *receptacle* naked; *fruit* flattened, transversely wrinkled, not beaked; *pappus* hairy. Name in Greek, alluding to its hollow stems.

10. Crépis (Hawk's-beard).—*Involucre* double, inner of one row, outer of short loose scales; *receptacle* naked; *fruit* not flattened, furrowed, tapering upwards; *pappus* soft and feathery, usually white, abundant. Name in Greek signifying a sandal, but the cause of this name is unknown.

11. Borkhaúsia.—*Involucre* oval, with awl-shaped scales, which soon fall off; *receptacle* naked; *fruit* rounded, transversely wrinkled, and having a long

beak. Name in honour of Moritz Borkhausen, a German botanist.

12. Leóntodon (Dandelion).—*Involucre* imbricated with numerous scales, the outer ones loose, and often turned downwards; *receptacle* dotted; *fruit* slightly flattened, rough, with a long and slender beak. Name from the Greek, *leon*, a lion, and *odous*, a tooth, from the tooth-like edges of the leaves.

13. Hierácium (Hawk-weed).—*Involucre* imbricated with numerous oblong scales; *receptacle* dotted; *fruit* angular, furrowed, with an entire or toothed margin at the top, without a beak. Name from the Greek, *hieraæ*, a hawk, because it was supposed that birds of prey used the plant to strengthen their powers of vision.

14. Lápsana (Nipple-wort).—*Involucre* a single row of erect scales, with 4—5 small ones at the base, few-flowered; *receptacle* naked; *fruit* flattened, furrowed; *pappus* none. Name of Greek origin.

15. Cichórium (Succory).—*Involucre* in two rows, inner of 8 scales, which bend back after flowering, outer of 5 smaller loose scales; *receptacle* naked, or slightly hairy; *fruit* thick above, tapering downwards; *pappus*, a double row of chaffy scales. Name from the Arabic, *chikoùryeh*.

Sub-Order II. Cynarocéphalæ.—Thistle Tribe.

Florets all tubular.

16. Árctium (Burdock).—*Involucre* globose, scales ending in hooked points; *receptacle* chaffy; *fruit* ob-

long, 4-sided; *pappus* short. Name from the Greek, *arctos*, a bear, from the roughness of the involucres.

17. Serrátula (Saw-wort).—*Stamens* and *pistils* on different plants; *involucre* imbricated, scales not prickly; *receptacle* chaffy or bristly; *fruit* flattened, not beaked; *pappus* hairy. Name from the Latin, *sérrula*, a little saw, the leaves being finely serrated.

18. Saussúrea.—*Involucre* imbricated, scales not prickly; *anthers* bristly at the base; *receptacle* chaffy; *pappus* double, outer bristly, inner longer, feathery. Named in honour of the two Saussures, eminent botanists.

19. Cárduus (Thistle).—*Involucre* swollen below, imbricated with spinous scales; *receptacle* bristly; *pappus* hairy, united by a ring at the base, and soon falling off. The Latin name of the plant.

20. Cnícus (Plume-thistle).—*Involucre* swollen below, imbricated with spinous scales; *pappus* equal and feathery. Name from the Greek, *cnizo*, to prick or wound.

21. Onopórdum (Cotton-thistle).—*Involucre* swollen below, imbricated, the scales spreading and spinous; *receptacle* honeycombed; *fruit* 4-angled; *pappus* hairy, rough. Name of Greek origin.

22. Carlína (Carline-thistle).—*Involucre* imbricated, swollen at the base, the outer scales loose, with numerous spines, the inner coloured, spreading, and resembling a ray; *receptacle* chaffy. Name the same as Carolina, from a tradition that an angel showed the root of one of the species to Charlemagne, as a remedy for the plague.

23. Centauréa (Knapweed, Corn Bluebottle, &c.)—*Involucre* imbricated; *receptacle* bristly; *pappus* hairy, or none; *outer florets* large, irregular, destitute of stamens and pistils. Name from the Centaur Chiron, who is said to have used it in healing wounds.

Sub-Order III. Corymbiferæ.

Florets of the disk tubular; marginal florets often strap-shaped.

1. Tubifloræ (The Tansy Group).

24. Bídens (Bur-marigold).—*Involucre* of many scales, the outer ones, or bracts, often leafy; *pappus* of 2—5 awns, which are rough, with minute teeth pointing downwards. Name from the Latin, *bis*, double, and *dens*, a tooth, from the structure of the fruit.

25. Diótis (Cotton-weed).—*Involucre* hemispherical, imbricated; *pappus* none; *corolla* with two ears at the base, which remain and crown the fruit. Name from the Greek, *dis*, double, *ous*, *ótos*, an ear, from the form of the fruit.

26. Tanacétum (Tansy).—*Involucre* cup-shaped, imbricated; *receptacle* naked; *fruit* crowned with a chaffy border. Name altered from the Greek *athánaton*, everlasting.

27. Artemísia (Wormwood).—*Involucre* roundish, imbricated, containing but few flowers. Name from Artemis, the Diana of the Greeks.

28. Eupatórium (Hemp-agrimony).—*Heads* few-flowered; *involucre* imbricated, oblong; *receptacle* naked;

styles much longer than the florets. Name from Mithridates Eupator, king of Pontus, who is said to have first used it.

29. Linosýris (Goldy-locks).—*Involucre* of one row of scales, surrounded by several longer ones, or imbricated; *receptacle* honeycombed; *pappus* in a double row, feathery, rough. Name from *linum*, flax, and *osyris*, a name given by Pliny to some flexible plant.

30. Antennária (Everlasting).—*Stamens* and *pistils* in separate flowers, and on different plants; *involucre* imbricated, the inner ones coloured or chaffy at the ends; *receptacle* naked; *pappus* hairy. Name from the hairs of the pappus, which resemble the antennæ of insects.

31. Gnaphálium (Cudweed)—*Involucre* roundish, dry, imbricated, often coloured; *receptacle* naked; *pappus* hairy. Name from the Greek, *gnaphálion*, soft down, with which the leaves are covered.

32. Filágo.—*Involucre* tapering upwards, imbricated of a few long pointed scales; *receptacle* chaffy in the circumference; *pappus* hairy; *florets* few, the outer ones bearing pistils only. Name from the Latin, *filum*, a thread, from the thread-like down which invests the plant.

33. Petasítes (Butter-bur).—*Involucre* a single row of narrow scales; *receptacle* naked; *stamens* and *pistils* usually on different plants. Name from the Greek, *pétasos*, a covering for the head, from the large size of the leaves.

2. Radiatæ (Daisy Group).

34. Tussilágo (Colt's-foot).—*Involucre* a single row of narrow scales; *receptacle* naked; *florets* of the ray narrow, in several rows; of the disk few; all yellow. Name from the Latin, *tussis*, a cough, from its use in that malady.

35. Erígeron (Flea-bane).—*Involucre* imbricated with narrow scales; *receptacle* naked; *florets* of the ray in many rows, very narrow, different in colour from those of the disk. Name in Greek signifying growing old early, from the early appearance of the grey seed-down.

36. Áster (Starwort).—*Involucre* imbricated, a few scales on the flower-stalk; *receptacle* naked, honey-combed; *florets* of the ray in one row, purple; of the disk yellow; *pappus* hairy, in many rows. Name from the Greek, *aster*, a star.

37. Solidágo (Golden-rod).—*Involucre* imbricated; *receptacle* naked; *florets* all yellow; *pappus* hairy, in one row. Name from the Latin, *solidare*, to unite, from its supposed property of healing wounds.

38. Senécio (Groundsel and Ragwort).—*Involucre* imbricated and oblong, the scales often tipped with brown, a few smaller ones at the base; *florets* all yellow, the outer sometimes wanting. Name from the Latin, *senex*, an old man, from the white seed-down.

39. Dorónicum (Leopard's-bane).—*Involucre* cup-shaped, scales in two rows, equal; *florets* all yellow; *pappus* hairy, wanting in the florets of the ray. Name of uncertain origin.

40. Inula (Elecampane, &c.)—*Involucre* imbricated in many rows; *receptacle* naked; *florets* all yellow; *anthers* with two bristles at the base. Name probably a corruption of *Helénula*, Little Helen.

41. Pulicária (Flea-bane).—*Involucre* loosely imbricated, in few rows; *pappus* in two rows, outer one short, membranous, cup-shaped, and toothed, inner hairy; *receptacle* naked; *anthers* with bristles at their base. Name from *pulex*, a flea, to which insect the plant is said to be obnoxious.

42. Béllis (Daisy).—*Involucre* of two rows of equal blunt scales; *receptacle* conical; *outer florets* white, inner yellow; *pappus* none. Name from the Latin, *bellus*, pretty.

43. Chrysánthemum (Ox-eye).—*Involucre* nearly flat, the scales membranaceous at the margin; *receptacle* naked; *pappus* none. Name from the Greek, *chrysos*, gold, and *anthos*, a flower.

44. Matricária (Wild Chamomile).—*Involucre* conical, hemispherical, or nearly flat, the scales imbricated, and usually membranaceous at their margins; *pappus* a membranaceous border, or wanting; *receptacle* naked. Name from some supposed medicinal virtues.

45. Ánthemis (Chamomile).—*Involucre* cup-shaped, or nearly flat, the scales imbricated, membranaceous at their margins; *receptacle* chaffy; *pappus* none, or a membranaceous border. Name from the Greek *anthos*, a flower, from its numerous blossoms.

46 Achilléa (Yarrow, Milfoil).—*Involucre* egg-shaped, or oblong, imbricated; *receptacle* flat, chaffy;

florets all of one colour, those of the ray broad, 5—10; *pappus* none. Name from Achilles, who is said to have first used it as a healing herb.

Anomalous Genus.

47. Xánthium (Bur-weed).—*Stamens* and *pistils* in separate flowers on the same plant. *Stamen-bearing flowers* with an involucre of few scales, and many small heads of flowers upon a common receptacle; *calyx* none; *corolla* sessile. *Pistil-bearing flower* with its involucre single, prickly, with two beaks enclosing two flowers; *calyx* none; *corolla* none; the two *stigmas* alone protruded from small openings between the heads. *Fruit* one-seeded. Name from *xanthos*, yellow or fair, because an infusion is said to have been used for staining the hair yellow.

Sub-Order I. Cichoraceæ.—Chicory Tribe.

1. Tragópogon (Goat's-beard).

* *Florets all strap-shaped; having stamens and pistils.*

1. *T. praténsis* (Yellow Goat's-beard).—*Involucre* about the same length as the corolla, or rather longer; *leaves* broad at the base, clasping the stem, very long, tapering, channelled, and undivided; *flower-stalks* slightly thickened above; *root* biennial. This plant, which is not uncommon, is one of easy recognition, for the long leaves, almost as slender as those of the young wheat, distinguish it at once from the other species of compound flowers, with their variously cut foliage. The stem is about two feet high, with sea-green bloom upon

its surface, and the flower is yellow, with either yellow or dark brown anthers. The blossom forms one of the best floral indices of the hour of the day, opening at sun-rise and closing at noon. It flowers in July. Bishop Mant says of it :—

> "And goodly now the noon-tide hour,
> When from his high meridian tower
> The sun looks down in majesty,
> What time about the grassy lea
> The Goat's-beard, prompt his rise to hail
> With broad expanded disk, in veil
> Close mantling wraps its yellow head,
> And goes, as peasants say, to bed."

This plant in country places is called Noon-day flower, Jack go to bed at noon, and Star of Jerusalem.

After flowering, the round ball of pappus is very conspicuous, being larger than that of any other wild flower, concave above, and interwoven ; not white like that of the dandelion, but of a light brownish colour, and each little shuttlecock-like plume placed on a long stalk. It is to this ball that the plant owes its rustic name of Goat's-beard, which has its synonym in several European countries. Thus the Germans call it *Bocksbart;* the Dutch, *Boksbaard;* the Italians, *Barba di becco;* the Spaniards, *Barba Cabruna;* and the French, *Sersifi.*

Gerarde says of the Goat's-beard, "The rootes boyled in water until they be tender, and buttered as parsneps and carrots, are a most pleasing and wholesome meate, in delicate taste farre surpassing either parsneps or carrots ; which meate procures appetite, warmeth the stomacke, prevaileth greatly in consumptions, and strengthencth those that have beene sicke of a long

lingering disease." Our species includes the *T. minor* and *major* of some botanists; though some writers regard the latter as a yellow variety of the Salsafy. The plant grows in meadows and pastures, and sometimes in hedges.

2. *T. porrifólius* (Purple Goat's-beard, or Salsafy).—*Involucre* longer than the florets; *flower-stalks* thickened upwards; *leaves* tapering, slightly broader just above the base, then gradually narrowing to an acute point; *root* perennial. This pretty purple species is often seen in gardens, and in the moist meadows of some parts of the kingdom, but it is local. It is rather a naturalized than a truly wild flower, and is very similar, save in the colour of its blossom, to the common Goat's-beard. The long tapering roots may be much improved by culture, they are mild and sweet, and resemble asparagus in flavour. The plant is still cultivated in France and Germany for these edible roots, and was so in England previously to the introduction into our kitchen gardens of the Spanish Salsafy (*Scorzonera Hispanica*), which occurred soon after the Skirret had been first planted here. The roots of the common Goat's-beard are equally sweet and nutritious, and some old writers preferred them to those of the purple kind. Like the other species, it closes at noon-day.

2. Helmínthia (Ox-tongue).

1. *H. echioídes* (Bristly Ox-tongue).—Outer scales of the *involucre* five in number, large, heart-shaped, with rounded notches at the margin; *stem* rough, with stiff hairs seated on tubercles; lower *leaves* lanceolate, upper

clasping the stem, and heart-shaped; *root* perennial. This plant is clearly distinguished by its large heart-shaped involucre. Its leaves are glossy green, their surface like the stem being dotted over with many white warty protuberances, from which the prickles spring. The juice is milky, and the leaves when young form a good vegetable, being either boiled, or, in some countries, pickled. The French call the plant *Langue de Bœuf*. The shining seeds are a beautiful object for the microscope. Dr. George Johnston remarks, that he found the Ox-tongue at Berwick, by the Pier-road, and adds, "This is probably its most northern station, as it has not yet a place in the Scottish Flora." It occurs in Ireland, about Dublin. The stem of this plant is two or three feet high, and much branched. Its small yellow flowers appear in June and July. It grows chiefly on dry banks and field borders, and is not very generally distributed, though by no means uncommon in Kent, Devonshire, and some other counties.

3. Pícris (Picris).

1. *P. hieracioídes* (Hawkweed Picris).—*Stem* branched, and, as well as the leaves, rough with forked and hooked bristles; *upper leaves* somewhat clasping, lanceolate, and toothed; *flower-stalks* with numerous scale-like bracts; *flowers* corymbose, outer scales of the involucre narrow, and lax; *root* perennial. This is rather a slender plant, about two or three feet in height, its handsome yellow flowers expanding in June and July. It is very common on the borders of fields, road-sides, and sea-cliffs of

England, but is not found in Scotland. It is very bitter, hence its name of *Picris*. The French also call it *Picride;* the Germans, *Bitterkraut;* and the Dutch, *Bitterkruid.*

4. Apárgia (Hawk-bit).

1. *A. hispida* (Rough Hawk-bit).—*Leaves* all from the root, pinnatifid, with the lobes pointing backwards, rough with forked bristles; *stalk* single flowered; *pappus* with an outer row of bristles; *root* perennial. This plant, which opens its yellow flowers from June till September, is very common on pastures and meadows, and spangles over the short grasses of the gravelly soils—

> "Where the furze has leave to wreathe
> Its dark prickles o'er the heath;
> Where the grey-grown hawthorns spread
> Foliaged houses o'er one's head,
> By the sporting axe untouch'd;
> Where the oak-tree gnarl'd and notch'd
> Lifts its deep-moss'd furrow'd side
> In Nature's grandeur—Nature's pride."

2. *A. autumnális* (Autumnal Hawk-bit).—*Root-leaves* linear, lanceolate, toothed, or pinnatifid, nearly smooth; *stalk* branched, scaly, and thickened above; *involucre* smooth or hairy: a variety occurs with smooth leaves, stalk mostly simple, and the involucre shaggy, with greenish black hairs; and another with hairy leaves, branched stalk, and involucre with dark hairs; *root* perennial. This plant is not unfrequent in meadows and pastures, its deep yellow flowers expanding in August. They are succeeded by brownish white pappus.

It is tall and slender, the many-flowered stalk slightly hairy, two or three feet high, and swollen beneath the flowers.

5. Thrincia (Thrincia).

1. *T. hirta* (Hairy Thrincia).—*Leaves* all from the root, lanceolate, entire, or deeply toothed, bristly or hairy, with forked or simple hairs; *stalks* simple, hairy below; *root* perennial. This plant is very frequent, from July to September, on heaths and downs, bearing a yellow flower on each of its purplish somewhat hairy stalks. It is from four to six inches high, with spreading rough leaves, more or less lobed. Mr. Babington mentions that its root is premorse or bitten.

6. Hypochœris (Cat's-ear).

1. *H. glabra* (Smooth Cat's-ear).—*Stem* branched, leafy, smooth; *root-leaves* oblong, lobed; *involucre* smooth, equalling the florets; *root* annual. The small yellow flowers of this plant, scarcely larger than the involucre, are to be seen from June to October in gravelly soils, but the species is not frequent. The stem, which is a foot or more in height, is branched, and bears a few leaves; and a variety is described with slightly hairy foliage.

2. *H. radicata* (Long-rooted Cat's-ear).—*Leaves* all from the root, pinnatifid, with the lobes pointing backwards, bristly; *stalks* branched, smooth, with a few scales below the flowers. This plant sends its perennial roots so far down into the earth, that it is difficult of eradiction. It is a common and trouble-

some plant on some soils, both on this account, and because its leaves, which spread horizontally, are so closely pressed to the earth as to prevent the growth of the grass. It is, however, more common on hedge-banks and waste places than on meadow lands. Swine are said to be very fond of its roots, and not only does this circumstance account for the name of the genus, but it is alluded to in some of the familiar names of various countries of Europe. The French call it *Porcelle;* the Dutch, *Biggenkruid;* the Germans, *Saukraut;* the Spaniards, *Hierba del alcon;* the Danes, *Kongpeune.* The large yellow flowers may be seen on their long branched flower-stalks during July and August.

3. *H. maculáta* (Spotted Cat's-ear).—*Stem* almost leafless, solitary, nearly smooth; *leaves* oblong, undivided, toothed, spotted on the upper surface; *involucres* slightly bristly; *root* perennial. This is a rare plant, occurring on some open downs of chalky or limestone districts in Suffolk, Cambridgeshire, and other counties. The stem is about a foot high, stout, and having at its summit two or three large deep yellow flowers, with two or three small scale-like bracts beneath them. The leaves are often all from the root, and the plant blossoms in July and August.

7. Lactúca (Lettuce).

* *Beak long, white; keel of leaves prickly.*

1. *L. virósa* (Strong-scented or Acrid Lettuce).—*Leaves* spreading, oblong, toothed, two-eared, and clasping the stem; *stem* leafy, branched above; *flowers* in panicles;

beak as long as the black fruit; *root* biennial. On some chalky soils this lettuce may be seen putting forth its yellow flowers from May to August. They are in loose panicles, and are very small in comparison with the large and numerous leaves. The stem is prickly, from two to four feet high, branched at the upper part, and having a few leaves scattered over it. The leaves about the root are oblong, or inversely egg-shaped, and very numerous. This lettuce can hardly be called a common plant in England, and in Scotland it is very rare. It is not rendered attractive by any odour, grace, or beauty, and would by any but a botanist be passed by as a large way-side weed. On some chalk cliffs it attains a gigantic size, as on those around Lydden Spout, near Dover. It grows there in such luxuriance as to give a peculiar feature to those steep precipices, being sometimes eight feet high.

This lettuce is found throughout Europe on hedges, walls, and field-borders, and is also cultivated to a large extent for the milky juice which it yields, which, when dried, has the name of *Lactucarium*, and which, as Gerarde says, "hath a very strong and grievous smell of opium." All our wild lettuces, as well as the garden species, possess this bitter and narcotic juice in greater or less degree, and it has, when dried, a considerable resemblance to opium. If we make an incision in the stem either of this weed or of the garden lettuce, just when it is beginning to flower, a milky juice exudes, which gradually becomes brown, and hardens into this substance. It may be used in cases in which the poppy is inadmissible; and the *Lactuca virosa* has been largely

grown at Brechin, in Forfar, as well as at some other places, for the pharmaceutical preparation. It is very important to select a soil well suited to the growth of this lettuce. At Brechin the plants are reared in a valley opening to the south, where they send up large and juicy stems. The milky juice which exudes on incision is suffered to harden in the sun until it becomes a thin cake, and when this is removed another incision is made in the stem, and often, when the plant is luxuriant, a third incision may safely be ventured on. Our climate is less favourable than some others for the growth of the plant, which, nevertheless, in many cases proves very productive.

This narcotic juice may be obtained, also, from other species of the lettuce, and the garden lettuce (*Lactuca sativa*) is the plant recognised by the London Pharmacopœia for supplying the substance. Dr. Christison remarks: "The London College, however, and many cultivators, are wrong in restricting themselves to the garden lettuce for the preparation of *lactucarium*. From information communicated to me several years ago by Mr. Duncan, chemist and druggist, of Edinburgh, who has often made *lactucarium* on a large scale, it appears that the *Lactuca virosa* yields a much larger quantity, and that the produce is of a superior quality. Nor is there any reason for dreading the narcotic properties of the wild lettuce, the scientific name of which has given rise to an exaggerated notion of its activity. The results obtained by Mr. Duncan have since been confirmed by those of Schultz, in Germany, who found that a single plant of the garden lettuce yields only seventeen grains

of *lactucarium* on an average, while a plant of wild lettuce yields no less than fifty-six grains. Mr. Duncan has made this observation also: 'Although the milkiness of the juice increases till the very close of the time of flowering, viz. in the wild lettuce, till the month of October in this climate, the value of the *lactucarium* is deteriorated after the middle of the period of inflorescence; for subsequently, while the juice becomes thicker, a material decrease takes place in the proportion of bitter extract contained in it.'"

2. *L. scarióla* (Prickly Lettuce).—*Leaves* upright, arrow-shaped at the base, and clasping, deeply cut; *panicle* leafy; *beak* as long as the pale fruit; *root* perennial. This species is rarely found in this country; but it grows on dry banks in some parts of Cambridgeshire and other counties. Its stem is leafy, from two to five feet high, bearing yellow flowers, with numerous heart-shaped bracts, in July and August. The plant is of paler colour than the last species, and the milky juice with which it abounds is of a somewhat less acrid nature. Many botanists believe that our garden lettuce (*L. satíva*) is but an ameliorated form of this species, while other writers think that the acrid (*L. virosa*) is the origin of our garden lettuces. These plants have been now so long under culture, that it is impossible to trace whence they were derived; and it is remarkable that the lettuce can be grown to as great perfection in a warm as in a temperate climate, provided the soil is rich and well supplied with water. Hence the lettuces of Paris and Rome are as good as ours, and the Hindoo dines from as sweet and large a vegetable as that which supplies

our salad. One of the cultivated lettuces doubtless was introduced from the Greek islands, as it retains its old name of *Cos lettuce*.

The wild prickly lettuce, though a rare English plant, is plentiful in many parts of Europe. It is found on the hilly districts of Greece, and is probably the species referred to by Dioscorides. The ancients were well aware of the narcotic principles of this genus; for the Romans used the lettuce both for salads and medicine, and the old poets prescribed a bed of lettuce for the sleepless. Pliny, as translated by Dr. Holland, says: "Yet is there another distincte kinde of the black lettuce, which for the plentie that it yieldeth of a milkie white juice procuring drowsinesse, is termed *meconis;* although all of them are thought to cause sleepe. In old times, our ancestors knew no other lettuce in Italy but this alone, and therefore it took the name of the Latins, *Lactuca.*" Any one who observes his own sensations after eating plentifully of a lettuce salad, will find that it disposes him to sleep if night is advancing; while if taken at a part of the day when we are unaccustomed to sleep, it soothes and calms the mind, and allays nervous irritability. As Pope said,

> "If your wish be rest,
> Lettuce and cowslip wine, probatum est."

When we indulge freely, indeed, in a lettuce salad, we might be told that we were incipient opium-eaters; but, happily, we are not likely at one meal to take so large a portion of the *lactucarium* as would affect the brain to anything like intoxication.

The lettuce appears to have been planted in our garden

early, but it was long before its growth became frequent. Turner mentions it in 1652, as a vegetable which was well known; but in the account of the Privy Purse expenses of Henry VIII. in 1530, we find that the gardener at York Place received a reward for "bringing lettuze and cherries to Hampton Court."

Spenser speaks of

"Cold lettuce and refreshing rosmarine."

Our wild lettuces are never now cultivated for food, and it would need a long course of culture ere their acrid principles could be removed. The varieties, *L. sativa, crispa, perennis, quercina,* and a few others, are those commonly reared in the kitchen garden.

3. *L. salígna* (Least Lettuce).—*Upper leaves* narrow, entire, pointed, arrow-shaped at the base; *lower leaves* pinnatifid; *beak* twice as long as the fruit; *root* biennial. This plant is found chiefly in the south-eastern parts of England, on chalky places near the sea, or in salt marshes. It has a slender wavy stem, slightly branched, and about two feet high; and the plant has at first sight somewhat the appearance of a small osier: hence its name. It bears, in July and August, small heads of yellow flowers in alternate tufts, forming long clusters, which are so dense as to resemble spikes.

* * *Beak short; keel of leaves smooth.*

4. *L. murális* (Ivy-leaved Lettuce).—*Leaves* pinnatifid, somewhat lyre-shaped, and toothed; the *terminal lobe* largest and angled; *beak* much shorter than the fruit; *root* perennial. This is the most common of our wild

lettuces, and is not unfrequent in woods, or on old walls. It is a slender plant, having a stem one or two feet high, with small yellow heads, each of which has five regular florets, so that it resembles a simple flower of five petals. It is in blossom from June to August. The stalks of the clusters grow in a very angular direction, and the fruit is black. It has less narcotic principle in its juices than either of the other species.

The French call the Lettuce *La Laitue*, the Germans *Der Salat*. It is the *Salade* of the Dutch, the *Lattuga* of the Italians, and the *Lechuga* of the Spaniards. The greater number of the Lettuce family grow wild in Europe, a lesser number in Asia and Africa, very few in America, and none in the southern hemisphere.

8. Mulgédium (Blue Sow-thistle).

1. *M. alpínum* (Alpine Blue Sow-thistle).—*Leaves* lyre-shaped, arrow-shaped at the base; *terminal lobe* very large, triangular, halberd-shaped, and acute; *stem* unbranched; *heads of flowers* in racemes; *bracts, flower-stalks*, and *involucres* with glandular hairs; *fruit* ribbed. Few of our native lovers of flowers ever look upon this beautiful plant, save in the herbarium of one who has wandered among the rare and lovely blossoms which grow on the highland heights—on Loch-na-gar and the Clova mountains. A few spots near rivulets, in these neighbourhoods, are its only British localities; but in some countries at the north of Europe it is a frequent plant. In Lapland, where it grows among the trees on the slopes of mountains, it is called *Terja*, and its milky

stem is peeled off and eaten raw by the people of those regions. It is intensely bitter, but the Laplanders, accustomed to eat it from childhood, relish it exceedingly. Some of them, however, told Linnæus, that when first they began using it as food, they found its bitterness very unpleasant. It is only while young that the plant can be eaten, for as soon as the flowers expand, the stalk becomes hard and woody. It is about three feet high, and the flowers, which appear in July and August, are rich purplish-blue. Some writers term it *Sonchus alpinus*, or *S. cæruleus*.

9. Sónchus (Sow-thistle).

1. *S. palústris* (Tall Marsh Sow-thistle).—*Leaves* narrow, lanceolate, clasping the stem with arrow-shaped ears, lower ones pinnatifid with few segments, upper ones entire; *stem* without branches; *root* perennial. This large Sow-thistle is very rare. It is found in marshes in the Isle of Ely, in the moist lands on the borders of the Medway in Kent, and in a few other spots. It bears, in August and September, pale yellow flowers, and as its stem is often six feet high, the plant is very conspicuous on the flat green lands where it grows. The involucre of the flower is very hairy.

2. *S. arvénsis* (Corn Sow-thistle, Milk-thistle).—*Leaves* oblong, more or less pinnatifid or entire, toothed, often prickly, the upper ones clasping the stem; *heads* somewhat corymbose; *involucres* smooth; *root* creeping. Those who stray into the harvest fields of August can hardly have failed to observe among the brown corn the large yellow star-like blossoms of this handsome

plant. Each flower is as large as a half-crown piece, and grows on a slender stem which overtops the wheat, and is sometimes even four feet high, adding much on the beauty of the field.

"Stars they are wherein we read our history,
As astrologers and seers of eld;
Yet not wrapp'd about with awful mystery,
Like the burning stars which they beheld.

"Wondrous truths, and manifold as wondrous,
God hath written in the stars above;
But not less in the bright flow'rets under us
Stands the revelation of his love.

"Bright and glorious is that revelation
Written all over this great world of ours!
Making evident our own creation,
In these stars of earth, these golden flowers."

This flower well deserves its name of *arvensis*, as it grows much on cultivated lands, but it is also found on field borders and other waste places.

3. *S. oleráceus* (Common Annual Sow-thistle).—*Leaves* undivided or pinnatifid, toothed, clasping, with two spreading arrow-shaped ears, lower ones stalked; *stem* branched; *fruit* ribbed lengthwise and wrinkled; *heads of flowers* somewhat umbellate; *involucres* smooth; *root* annual. This plant is well known to the cultivator of a garden, for it is a frequent intruder on his beds. It has bright glossy, often prickly leaves, their edges in one variety divided, in the other entire, and all as well as the stem so full of milky juice, that its name of Milk-thistle is not inappropriate. Many a ramble by field border and sunny bank does the schoolboy take to gather a

basket of its soft juicy foliage for his rabbit; while the timid wild hare will creep through a garden hedge before its owner has waked up to the dawn, and will there take a breakfast on the Sow-thistle. Horses are not fond of the plant, but it is eaten by sheep and goats, and is so favourite a food with swine, that their preference is indicated not alone by our familiar name, but by that of some other European lands. The Germans call it *Saudistel*, and also *Hasenkohl;* the French term the plant *Le Laiteron;* the Italians, *Sonco;* the Spaniards, *Cerraja;* the Dutch, *Haazenlatuw;* and it is known by the Russian peasant as the *Tschistotel.* It is common not only in Europe, but in some parts of Africa; and Kalm says it grows wild near every farm-house at the Cape of Good Hope, and is used by the people there in making salves. It has also become a very frequent plant in New Zealand, either this or the Corn species flourishing in abundance, with docks and poppies, among the fields of waving corn—little welcomed by the farmer who is intent on cultivating that fertile soil, though doubtless often, as Colonel Mundy says, reminding the traveller very pleasantly of "weedy, seedy old England." Remarking on the luxuriant growth of several British weeds, as the docks and chickweeds, which adorn the road-sides, this author says,—"I rather think Cook found the Sow-thistle here. At any rate, this humble weed is in New Zealand promoted to an esculent, the Maoris making of it a sort of salad." He adds, that it is invaluable to the birds, especially to the parrot tribes, hundreds of which, "of beauteous dyes but odious accents," he saw fluttering and feeding on its filmy tops.

This Sow-thistle has similar properties to the Succory and Dandelion. Its leaves are much eaten by the peasantry of France and Germany as salad, and are in many countries of Europe boiled for the table. It is said that, prepared in the way of spinach, they furnish a dish of vegetables superior to any green plant in common use.

4. *S. ásper* (Sharp-fringed Annual Sow-thistle).—*Leaves* undivided or pinnatifid, sharply toothed, clasping, with rounded ears; *fruit* ribbed lengthwise, smooth; *stem* branched; *heads of flowers* somewhat umbellate; *involucres* smooth; *root* annual. This plant is probably a variety of the Common Sow-thistle, which it much resembles in its general appearance. It differs chiefly in having more crisped leaves, and in its fruit being destitute of wrinkles. Its stem is two or three feet high, and its flowers, which expand during the summer months, are yellow. It occurs, also, in gardens, fields, and waste places.

10. Crépis (Hawk's-beard).

1. *C. vírens* (Smooth Hawk's-beard).—*Leaves* smooth, pinnatifid, with the lobes pointing backwards, the upper ones narrow, arrow-shaped at the base, and clasping the stem, remotely toothed, and with flat margins; *fruit* shorter than the pappus, oblong, with smooth ribs; *root* annual. This plant bears numerous little yellow flowers, rather larger than a fourpenny piece, from July to September, and is very common on waste ground or the cottage roof. It varies very much in height, being in

some cases but a few inches, in others more than two feet high.

2. *C. biénnis* (Rough Hawk's-beard).—*Leaves* rough, pinnatifid, with the lobes pointing backwards, uppermost lanceolate, clasping, and toothed; *involucre* downy, outer scales very narrow and lax; *fruit* oblong, with smooth ribs, longer than the pappus; *root* biennial This plant is very rare, but it occurs on some chalky pastures of England. The flowers are larger than those of the last species, and the pappus which succeeds them is white as snow. The stems are from two to four feet. high, and furrowed, and the plant blossoms in June and July.

3. *C. púlchra* (Small-flowered Hawk's-beard).—*Leaves* downy, toothed, those from the root oblong, and tapering into a footstalk, the rest arrow-shaped and clasping; *panicle* spreading; *fruit* about as long as the pappus, faintly marked with lines. This plant has small yellow flowers on an erect and downy stem. It was discovered by Mr. Don on the Hill of Turin, near Forfar, but is not now to be found there, and is a doubtful native.

4. *C. succisæfólia* (Succory-leaved Hawk's-beard).—*Leaves* oblong, blunt, nearly entire and smooth, lower ones narrowing into a footstalk, upper ones sessile and somewhat clasping; *flower-stalks* and *involucres* glandular and hairy; *fruit* as long as the pappus, distinctly marked with lines; *root* perennial. This is a rare plant of Scottish woods, or those of the north of England: it bears its few and small yellow flowers in July and August.

5. *C. paludósa* (Marsh Hawk's-beard).—*Leaves* smooth, lower ones pinnatifid, with the lobes pointing backwards,

tapering into a stalk, upper ones narrow, heart-shaped at the base, and clasping the stem; *fruit* marked with lines; *root* perennial. This is not an unfrequent species in damp woods; flowering from July to September.

11. Borkhaúsia (Borkhausia).

1. *B. fœtida* (Stinking Borkhausia).—*Leaves* hairy, upper ones lanceolate, lower ones pinnatifid, their segments turning backwards; *unexpanded flowers* drooping; *involucres* hairy and downy; *root* biennial. This is a rare plant of dry chalky lands of Cambridgeshire, Norfolk, and Kent. Its name is not undeserved; for although, when at a distance, the plant has a faint odour of bitter almonds, yet, when held in the hand for a minute, the scent is most disgusting. The leaves are milky and very bitter. The stem is spreading, and has long stalks, each bearing a solitary yellow flower, which is reddish externally.

2. *B. taraxacifólia* (Smaller Rough Borkhausia).—*Leaves* pinnatifid, mostly with their segments pointing backwards, sessile or stalked; *heads of flowers* erect; *involucre* bristly and downy, outer scales membranaceous; *bracts* narrow; *root* biennial. This is not a common plant, being found in chalky pastures, chiefly in the south of England. The yellow flowers expand in June and July.

12. Leóntodon (Dandelion).

1. *L. Taráxacum* (Common Dandelion).—*Leaves* all from the root, pinnatifid, with the lobes pointing back-

wards; *flower-stalks* hollow, smooth, leafless, and bearing a single flower; *outer scales of the involucre* turning downwards; *pappus* stalked and white; *root* perennial. If there are some plants which we value for their rareness, because we have sought them long or fetched them from afar, so there are others which delight us by their very commonness, and which gladden us by their gleaming thousands. Often they recal some touching scene of childhood—of early homes or friends. Such are the daisy and dandelion, which have these associated charms, independently of that which belongs to their own beauty of form or hue. Many of us would, under similar circumstances, feel as the author of "Our Antipodes" did, when in the botanic garden of Sydney. "Some of the producers," he says, "evince their fealty to their native land by exhibiting specimens of her weeds, or more properly field flowers, strangers to the colony, and difficult to rear in this climate. I found myself adoring a buttercup, idolising a daisy, and ardently coveting the possession of a glorious dandelion, which, classically labelled '*Leontodon Taraxacum*,' occupied one of the high places of the exhibition, and was treated as an illustrious foreigner." A lowly plant it is with us, trodden over by the countryman as he passes through the field, or pressed down by the feet of little, gladsome children, on pasture land or sunny bank; a treasure yet to them—a treasure to all who truly love flowers. It scorns no grassy spot as unworthy of its beauty, from church tower to garden wall, to the shadowy woods or the river's brink—to the pebbly beach, or the crevice of the pavement. It is often the earliest flower of the green mead, sending out a stray

blossom even in February, and assembling in multitude by April and May.

> "E'en when old Winter leaves his plashy slough,
> The dandelions, like to suns, will bloom,
> Beside some bank or hillock creeping low,
> Though each too often meets an early doom."

What a wealth to country children are the dandelions with their hollow stalks, linked into chains day after day, with untiring eagerness, and with the white downy balls,

> "The schoolboy's clock in every town,"

which come as the flowers fall away, and which sometimes whiten the meadow by their profusion, till a strong gust arises, and scatters them far and wide! Away they float, each white plume bearing onwards the seed at its base, so beautifully balanced that its motion is most graceful, and its destined place in the soil most surely reached. All who notice the exquisite arrangement of this downy plume and seed, might learn the pious lesson taught by Martin Tupper:

> "And doubtless the sailing of a cloud hath Providence to its pilot,
> Doubtless the root of an oak is gnarl'd for a special purpose;
> The foreknown station of a rush is as fixed as the station of a king,
> And chaff from the hand of the winnower steer'd as the stars in their courses."

Besides the uses of the dandelion to child, bee, and butterfly, besides the pleasant thoughts which it may bring to the philosopher, the dandelion has various important economic uses. The leaves are grown in some

continental countries, and after being blanched, are eaten in salads; nor is the bitterness which exists in the green leaf, and which even blanching cannot wholly remove, disagreeable to all palates. The peasants about Göttingen, besides mingling the leaves with their dish of lettuce and sorrel, have long been accustomed to roast the roots as a substitute for coffee; and when, on one occasion, a swarm of locusts had destroyed the harvest in the island of Minorca, many of the inhabitants were supported for a time by the roots and foliage of this plant. In some parts of Germany the roots are boiled for the table, and the French eat them when sliced in salads. Many writers think that the substitution of this root for the coffee is rather advantageous than otherwise. A physician of Edinburgh said of the Dandelion, 'It possesses all the fine flavour and exhilarating properties of coffee, without any of its deleterious effects. The plant being of a soporific nature, coffee made from it, when drunk at night, produces a tendency to sleep, instead of exciting wakefulness, and may be safely used as a cheap and wholesome substitute for the Arabian berry, being equal in substance and flavour to the best Mocha coffee." Mrs. Moodie, in her work on Canadian life, remarks that she had read this opinion previously to leaving England; and that one day, observing a large number of dandelion roots in some land which belonged to their farm, she was reminded of it, and resolved to make the experiment. She therefore carefully washed the roots without depriving them of the fine brown skin which covers them, and in which the aromatic flavour exists. She observed while roasting them that the

odour so nearly resembled that of roasted coffee, that it might have been taken for it. When by this process the pieces of dandelion-root had acquired the brownness of coffee, they were ground and prepared in the usual way for the morning meal, and proved very superior to the coffee which she had been able to procure from the stores in the neighbourhood. "For years," adds Mrs. Moodie, "we used no other article; and my Indian friends who frequented the house gladly adopted the root, and made me show them the whole process of manufacturing it into coffee. Experience has taught me that the root of the Dandelion is not so good when applied to this purpose in spring as it is in the fall. I tried it in the spring, but the juice of the plant having contributed to the production of leaves and flowers, was weak, and destitute of the fine bitter flavour of coffee." She adds, that the roots dried in the sun will keep for years, and also that the plant cultivated in trenches may be, by being covered with straw, blanched to a beautiful cream-colour, and will make a salad equal to endive. In many parts of the United States, particularly in new districts where vegetables are scarce, it is used early in the spring as a boiled vegetable; and in some of the townships the settlers boil the young leaves and mingle them with hops, and thus produce a good home-brewed beer.

Of the medicinal virtues of the Dandelion there can be no doubt, for it is a good tonic. Whether, as the old writers said, he who was "drawing to a consumption" would find a "wonderful help" from its use, we cannot tell, nor has the distilled water, which they directed to be drunk in pestilential fevers, received any

confirmation of its value among modern physicians. It is still, however, recommended for those who have affections of the liver, and many persons who have suffered in health from a long residence in hot climates have experienced great relief by taking its decoction. We have seen the complexion wonderfully improved by dandelion tea, but though its use could not be attended with any danger, yet some knowledge of disease is desirable in the use of any medicine, whether vegetable or mineral.

The Dandelion is a troublesome plant of the pasture, both because of its profusion of seeds, and because every inch of its root forms buds and fibres, and thus constitutes a new plant, while both sheep and cows seem to dislike its foliage. The English name for the plant is a corruption of the French *Dent-de-lion*, and was given because of its leaves, the lobes of which were fancied to resemble the tooth of the lion. It is general in the pastures of Europe, and on those of many parts of America; and the American poet Lowell has some verses to the flower:—

"Dear common flower that grow'st beside the way,
Fringing the dusty road with harmless gold—
  First pledge of blithesome May
Which children pluck, and full of pride uphold,
  High-hearted buccaneers, o'erjoy'd that they
An Eldorado in the grass have found,
  Which not the rich earth's ample round
May match in wealth—thou art more dear to me
Than all the prouder summer blooms may be.

"Gold such as thine ne'er drew the Spanish prow
Through the primeval hush of Indian seas,
  Nor wrinkled the lean brow
Of age to rob the lover's heart of ease;

'Tis the spring's largess which she scatters now
To rich and poor alike with lavish hand,
Though most hearts never understand
To take it at God's value, and pass by
The open'd wealth with unrewarded eye."

13. Hierácium (Hawkweed).

This genus is one of a most perplexing character, our most skilful botanists differing as to the exact number of species which it contains. The species here described are, however, probably all which can be considered as truly indigenous to this country. Many others are either doubtful natives, or are likely to prove varieties of the species enumerated in this list. The student, however, intent on closely investigating the minute characteristics of all the plants of this troublesome genus, will find the Hawkweeds, with all their varieties, and with reference to the synonyms and opinions of various British and foreign botanists, fully described and stated in those inexpensive works —works beyond all praise—"The British Flora" of Sir William Jackson Hooker and Dr. Arnott, and "The Manual of Botany" of Mr. Babington. The former writers describe eighteen species of Hawkweed, adding, however, in a note, that they believe they have admitted too many species into the genus. Mr. Babington enumerates twenty-seven species.

* *Plants producing scions.*

1. *H. Pilosélla* (Common Mouse-ear Hawkweed).—*Leaves* oblong or lanceolate, hairy on both sides, white with down beneath; *stem* single-flowered, leafless; *scions*

creeping; *leaves* entire, hairy; *root* perennial. This Hawkweed is easily distinguished from all the other native species by its uncut leaves, together with its creeping scions. It is a common and very pretty flower, of a much paler yellow than most of the species, and truly lemon-coloured; the florets of the ray have usually red lines on the outside, and the young unfolded or half-blown flowers look very beautiful in their rich crimson tint. The scions are mostly slender and rooting, lying close to the surface of the soil; and the leaves, often of a greyish green colour, are paler beneath. The plant grows on sunny banks, dry heaths and pastures, often studding the short grass of the sea cliff or that of the garden lawn with its blossoms, which are larger than a shilling piece. The herb was formerly in much repute for its supposed medicinal properties. "The juice thereof taken in wine," says an old writer, "or the decoction drank, helpeth the jaundice, although of long continuance, if drank night and morning;" but the herbalist adds, that all other liquid must be abstained from for some hours after. It appears, too, to be one of the plants used by the alchemists in their preparations; for this author says, "The moon owns this herbe also, and though authors cry out upon alchemists for attempting to fix quicksilver by this herbe and Moonwort, a Roman would not have judged a thing by success; if it be fixed at all, it is fixed by lunar influence." There is another Hawkweed, truly distinct from all other species, but which, though often found on hills and in woods, both in England and Scotland, is not a truly wild plant, having been wafted

leaves egg-shaped, somewhat lanceolate, toothed, with the teeth pointing upwards, rather hairy; *root-leaves* usually tapering into a foot-stalk; *stem-leaves* either stalked or sessile; *flower-stalks* somewhat downy, in some cases having black hairs mixed with the down; *involucre* hoary with down; *root* perennial. This is one of our commonest Hawkweeds, being found in mountain woods, and on banks and bushy places. It is a very variable plant both in size and appearance. The stem is from twelve to eighteen inches high, and the large bright yellow flowers appear in August and September. In one variety the leaves are either uniformly green or purplish, or glaucous beneath, the root-leaves remaining till the time of flowering. In a form described by some writers as *H. maculátum*, the leaves are spotted with dark purple blotches, and the root-leaves wither before the flowers expand.

5. *H. cerinthóides* (Honey-wort Hawkweed).—*Stem* with few leaves, hairy, with a corymb of flowers at the top; *leaves* hairy, root ones oblong-lanceolate, acute, rather glaucous; *stem-leaves* egg-shaped, more or less clasping the stem, the upper part of the flower-stalks downy with hairs from a black base, mixed with bristles; *involucre* inflated, clothed with black hairs mixed with whitish ones from a black base; *scales* pointed; *root* perennial. This species has large almost globose yellow flowers in August, and is found on rocks in the Scottish Highlands.

6. *H. prenanthóides* (Rough-bordered Hawkweed).—*Stem* leafy, unbranched, hairy; *panicle of flowers* somewhat corymbose; *leaves* toothed or entire, netted and

glaucous beneath, lower ones narrowed into an eared clasping leaf-stalk, upper leaves lanceolate, heart-shaped and clasping; *flower-stalks* and *involucres* rough with hairs and black bristles; *outer scales* few, and much smaller than the inner ones; *fruit* pale brown, and smooth; *root* perennial. This is a rare species of river-sides in the north of this kingdom: it has numerous small yellow flowers in July and August. A species long called *H. denticulátum* is a woodland form of this.

7. *H. boréale* (Shrubby broad-leaved Hawkweed).—*Stem* erect, leafy, rough, or hairy, either panicled or corymbose at top; *leaves* egg-shaped or lanceolate, upper ones broad, sessile, scarcely clasping, lower ones tapering into a footstalk; *involucres* with blackish scales pressed closely down; *fruit* slightly rough and brown or red; *root* perennial. This is a very valuable plant, bearing its yellow flowers in August and September. It is not unfrequent in woods, and on banks. A plant with all the leaves narrowed at the base, very nearly allied to this, and probably a variety of it, is found in mountainous districts, and is described by some writers as the Rigid-stemmed Hawkweed (*H. rígidum*). This has a smooth solid stem; and a plant scarcely differing from it, but having a rough hollow stem, and an involucre which becomes, after flowering, narrowed in the middle is by some botanists termed *H. tridentátum*.

8. *H. umbellátum* (Narrow-leaved Hawkweed).—*Stem* erect, simple, corymbose, somewhat umbellate at the summit, leafy and rigid; *leaves* oblong-lanceolate or very narrow, toothed or entire, lower ones narrowed at the base, upper sessile, acute, or rounded at the base;

flower-stalks and sometimes *involucres* downy, but not hairy; *scales* blunt, with points turning backwards; *root* perennial. In one variety of this the leaves are all narrowed at the base; in a second, which is found at Dunkerran, County Kerry, in Ireland, the whole plant is much larger, and the leaves broader and egg-shaped at the base. This is not an unfrequent plant in our woods. Its stem is remarkably upright, two or three feet high, unbranched, and having an almost umbellate tuft of large yellow flowers in August and September. It is used in Sweden to dye yarn of a yellow colour. Dr. George Johnston observes, "It is remarkable that in the greater number of these plants some insect deposits its eggs near the summit, by which an oval or globular tumour is produced, and a more complete umbellate appearance given to the flower."

The Hawkweeds were prescribed for various maladies, and esteemed very efficacious against the bites of serpents. The old notion, that by means of these plants the hawks strengthened their vision, probably gave them some importance in days when falconry was practised. The Greeks, apparently from this opinion, gave the Hawkweed the name of *Accipitrina*, and hence the English Hawkweed, as well as the French *Epervière*, and *Herbe à l'Epervier*. The Germans also call it *Habichtskraut;* the Dutch *Haviksruid;* and the Spaniards and Portuguese term it *Hieracio*. Coles, in his "History of Plants," written in 1657, says, "I shall treat of this plant as appropriated to the eyes;" and Dale tells us that taken inwardly the Hawkweed sharpens the sight, and expels black bile. A very pretty species,

H. venósum, is called in America Poor Robin's Plantain, and is believed to possess considerable medicinal powers.

14. Lápsana (Nipple-wort).

1. *L. communis* (Common Nipple-wort).—*Leaves* stalked, toothed, heart-shaped at the base; *stem* branched; *flowers* numerous; *pappus* none; *root* annual. This is a very common plant in July and August by hedges and road-sides, offering little to attract in its pale yellow flowers, which are very small in proportion to the size of the plant. It is generally two or three feet high, with many blossoms about the size of a threepenny piece, and leaves of very different forms on different parts of the plant. The upper ones are either entire or simply toothed, the lower ones more or less cut, and having several small lobes running down the leaf-stalks. This plant is sometimes called Swine's-cress, and Succory Dock-cress; and the young spring leaves, which have somewhat the flavour of radishes, are eaten in Turkey among salad herbs. The foliage in a warmer climate loses probably some of its bitterness, as it would hardly be relished in its uncooked state in our country, though in some parts of England it is boiled by the peasantry. It is also used medicinally in villages. The French call it *La Lampsane commune*, and the Germans *Der Rainkohl;* the Spaniards term it *Lampsana;* and the Dutch *Akkermoes*.

2. *L. pusílla* (Dwarf Nipple-wort).—*Flower-stalk* branched, very thick, and hollow at the upper part; *leaves* oblong, somewhat egg-shaped, toothed; *pappus* a short entire border; *root* annual. This is a rare species, occurring in some cultivated lands, and having,

in July and August, small yellow flowers on leafless stalks, which swell and become hollow upwards. It is seldom more than six inches high.

15. Cichórium (Succory).

1. *C. Intybus* (Wild Succory).—*Heads* of flowers sessile, axillary, in pairs; lower *leaves* toothed, with their segments pointing backwards, hairy on the back of the vein, upper ones clasping, oblong or lanceolate, entire; *stem* erect, branched; *root* perennial. This beautiful plant is usually to be met with wherever the soil is light, gravelly, or chalky. In the harvest-field its tough stems cause much trouble, and it clusters in quantities on field-borders or hedge-banks by the road-side, meriting well its pretty old German name, which signifies keeper of the ways. It is a somewhat ragged shaggy looking plant, even when in fullest beauty, for its large flowers, blue as the sky, wither away one by one, and remain attached to the stems, while the young buds are yet expanding. The blue star-like flower is as large as a dandelion, but not so full of florets, and it grows close to the stem, which is from one to three feet high. The landscape is just at that season rich with lovely flowers:—

"Bursting like some snow-flake from the emerald hedges
Bindweeds profusely throw out their petals white,
Nightshade flowers with centred gold, and wings of purple edges,
Mix with gay convolvuli, and vetches red and bright:
Blue blooms the Succory, each bud than sapphire brighter,
Purple-spiked wild thyme, in amethystine pride,
Scatters aromatic scents, of bees the sweet inviter,
While topaz-like the agrimony's columns rise beside."

This flower seems in former times to have been commonly called Endive, for Gay says:—

"Upon her grave the rosemary they threw,
The daisy, butterflower, and endive blue."

This Succory grows wild, more or less, in all the countries of Europe. In France it is called *Chicorée;* in Germany, *Cichorie;* and in Holland, *Sukerey.* The Italians call it *Cicoria;* the Spaniards, *Achicoria;* the Russians, *Zikorifa.* De Theis remarks upon its name that Bodæus, Linnæus, and others have derived it from the Greek words, "to come," and "field;" that is to say, a plant which grows wild in the field—or everywhere—but that this etymology is overstrained. It is far more natural, he says, to suppose that the Egyptians, who used this plant in great quantities, would have communicated to the Greeks, along with the manner of preparing it, its Egyptian name, which appears from Forskhal to be *Chicoùryeh.* Pliny observed that the Chicory was a very important plant in Egypt, and it is stated that at the present day this and some very similar plants constitute half the food of the Egyptians. In the same manner, doubtless, the specific name of *Endivia* and *Intybus* are both derived from *Hendibeh,* which is the Arabic name of the plant. It seems probable that the Chicory of Theophrastus, which was used by the ancients, was our wild Succory, since its names through Europe are but corruptions of the name by which the ancients called it.

The Garden Endive (*Cichórium Endívia*) is a nearly allied plant, and some writers think it merely a variety of the common Succory. It is now reared in large quantities by market gardeners, and forms a valuable addition to spring salad. Mr. Curtis considered it

a distinct species; and it is to be remarked, that while the common Succory has the same name throughout Europe, this is known by a different one, most of the people of the Continent calling it *Endivie, Endivia,* or *Endibia,* while the French call it *La Scarole.* Mr. Curtis says, "The *Cichórium Endívia,* which is an annual or biennial, grows wild in the corn-fields of Spain, together with the *C. Intybus:* it is undoubtedly the parent of the cultivated Endive, but it is not so clear which of the two is the plant so celebrated by Horace as constituting part of his simple diet."

We may occasionally see the star-like flowers of our wild Succory of a clear white hue, and it has been discovered that the blue colour of the petals is changed into a beautiful red by the acid of ants. Mr. Miller the engraver told Mr. Curtis that the boys in Germany often amused themselves in producing this change of colour by placing the blossoms in an ant-hill. These flowers were, it seems, formerly considered very beneficial to health, for Parkinson tells us, "The bitterness thereof causeth it to be more physicall than the curled endive; therefore the flowers pickled up, as divers other flowers are used to be now a daies, make a delicate sallet at all times when there is occasion to use them." This "pickling" the flowers appears to have been merely mixing them with sugar, and making them into a kind of confection, probably similar to that favourite sweetmeat called Violet plate, so much in fashion in the time of Charles I. An old work, Sir John Elyot's "Castel of Helth," seems to have been a great authority among our forefathers. It was first printed in 1534, and compara-

tively few as readers were in those days, it was afterwards reprinted no less than nine times. The writer of this work says, "In all colerike fevers the decoction of the herbe sukorie, or the water thereof, stylled, is right expedient." A writer some years later, commending the Succory as a "fine cleansing jovial plant," recommends the decoction of the leaves, as well as the distilled water and syrup, for a variety of maladies.

This Succory is largely cultivated on the Continent, from Italy to Russia, for the leaves, which are used in salad, and which the French call *Barbe à capuchin.* It is also planted as fodder for cattle, and highly prized for the nutriment which it affords. The root, which is now so extensively used in this kingdom to mingle with coffee, was at first employed either as a substitute for that berry or as a surreptitious adulteration of the coffee commonly sold. Its use has now become very general, and some persons think, that mixed with the Arabian berry it improves its flavour. Dr. Howison considers the Succory root superior in flavour to the exotic berry; and Dr. Duncan, some years since, urged the culture of the plant in this country for this purpose. In some parts of Holland and Germany the prepared root is sold in large quantities, and so generally has it of late years been mingled with the coffee sold in this kingdom, that the legislature has forbidden its sale, except in cases in which it is clearly stated to be used. Dr. Ure has informed us, that nothing can be easier than the detection of Chicory powder or similar substances in the powdered coffee. He remarks, that ground roasted coffee imparts to cold water merely a pale sherry colour,

whereas, when it is adulterated with ground roasted chicory, it communicates to the water a brown colour of greater or less intensity. If glass tubes be set upright, and charged respectively, the first with one grain of pure coffee; another with two of coffee mixed with a little chicory; a third with three grains of coffee mixed with much chicory; and if a small quantity of pure water be poured into each tube, and the vessels be shaken and then set upright again at rest, the solid particles will soon descend, and the clear liquid in the stem of the tubes will show by the varied depths of the tincture the proportions in each of coffee and chicory. The Succory root when intended for salad should be dug up, and placed in earth in a warm dark place, the crowns of the roots alone being exposed. The leaves will shoot out freely during winter, and being thus blanched lose their bitterness, and become fit for salad.

The Succory, or Endive, is believed by many writers to be alluded to among the "bitter herbs" which God commanded to be eaten by the Israelites with the lamb when the Passover was instituted. "They shall eat the flesh in that night, roast with fire, and unleavened bread, and with bitter herbs shall they eat it." It is difficult to ascertain the exact plants intended, but as Rosenmüller observes, the Endive has the oldest authorities in its favour, as the most ancient Greek Alexandrian translations render the word "endives;" and Dr. Geddes remarks on this, that the Jews of Alexandria, who translated the Pentateuch, could not be ignorant of what herbs were usually eaten at that season in their day. Five sorts of plants are stated by the Mishna, any

one of which might be taken by the Jews on this occasion: the wild lettuce; the endive, a plant which some writers explain to mean the horehound, the young tops of horseradish, or a thistle; another, which is by some called a nettle; and lastly, one which is supposed to be the bitter coriander.

Sub-Order II. Cynarocéphalæ.—Thistle Tribe.

16. Árctium (Burdock).

1. *A. Láppa* (Common Burdock).—*Leaves* heart-shaped, stalked; *heads* large, usually corymbose; *inner scales of the involucre* awl-shaped, with a sharp point longer than the florets. This form is the *A. major*, or *A. Bardána*, of some writers; but a variety occurs in which the heads are much smaller, growing more in the form of a raceme, and the sharply-pointed inner scales of the involucre are shorter than the florets. This is sometimes described as *A. mínus*, or *A. Láppa*. This large biennial plant is known to every one by the conspicuous prickly burs which invest it during autumn, and which are the involucres of its summer flowers. To this bur—this ball of hooked scales, covered more or less with a slight web of cottony down, the plant owes its numerous country names, as Great Bur and Hurbur. One of our old herbalists says, "They are called Personata, and Loppy major, Great Burdock, and Clot-burr." The name *Lappa* is from the Celtic *llap*, a hand, because it catches by its hooks at passing objects; and the burs are well known to boys, who try to catch bats by throwing them at these animals.

The Burdock is a rough-looking plant, often having a stem three or four feet high, with leaves around its root larger than those of any native plant except the Butter-bur. The foliage is dull green, and the flowers, which expand in July and August, are purplish lilac, looking somewhat like thistle-flowers. Clare says,

"Sweet it is to meet the breeze
'Neath the shade of hawthorn-trees,
By the pasture's wilder'd round,
Where the pismire's hills abound,
Where the blushing fin-weed's flower
Closes up at even's hour,
Leaving then the green behind;
Narrow hoof-plod lanes to wind,
Oak and ash embower'd beneath,
Leading to the lonely heath,
Where the unmolested furze
And the burdock's clinging burrs,
And the briars by freedom sown,
Claim the wilder'd spots their own."

The Burdock has an old reputation for curing rheumatism, the large leaves being applied to the painful limb. The roots were formerly preserved with sugar, and eaten fasting, as a remedy in pulmonary affections. Though the remedial virtues of the plant were doubtless overrated by the old herbalists, who prized it for a large number of disorders, yet the Burdock has undoubted medicinal uses. The slightly acrid and bitter seeds have been found serviceable in some cases; and a decoction of the root forms one of those ptisans so commonly recommended by French physicians in pectoral complaints. The plant is still considered by competent judges as of some use, even when outwardly

applied, in the healing of wounds. Sir Robert Walpole praised a decoction of the roots as a remedy for gout; and this is considered by several medical botanists, among them Dr. Withering, as equal, if not superior, in properties to sarsaparilla, in rheumatic affections. Few animals will touch the leaves of the Burdock; but the birds will sing their songs in the summer woods, come in autumn to peck its seeds, and some insects feed on the foliage. The plant really deserves praise as furnishing a wholesome vegetable; and among the many whose young stems are occasionally used as a substitute for asparagus, we know of none so tender as this. The stems should be stripped of their rind just before the time of flowering. The plant is cultivated on this account in some parts of France; while Kalm says, that at Philadelphia the peeled stems are commonly eaten as radishes.

The Burdock is general throughout Europe, in uncultivated spots, in woods, or by the sides of ditches; and it is equally so in Japan, and in many parts of America. The French call the plant *Bardane;* the Germans, *Klette;* the Dutch, *Klissen;* the Italians, *Lappola;* the Spaniards, *Lampazo;* and the Russians, *Lapuschnik.*

17. Serrátula (Saw-wort).

1. *S. tinctória* (Common Saw-wort).—*Flowers* having their stamens and pistils in separate flowers and on different plants; *leaves* entire or pinnatifid, usually with bristly serratures; *scales of the involucre* either smooth or having on them a cottony down; outer ones

close pressed, inner narrow and tinged with purple; *root* perennial. This plant, which does not grow wild in Scotland, is far from uncommon in England, being found in woods, thickets, and healthy places, sometimes in great profusion. It is a stiff slender plant, with a stem one or two feet high, and bears in August a cluster of small terminal oblong heads, of dark-purple thistle-like flowers, consisting of florets which are almost globular, and which, as Purton says, resemble old-fashioned wine-glasses. The genus is called Saw-wort from the saw-like edges of the leaves of several of the species. Our native plant yields a fine yellow colour, which Linnæus tells us is much used in Sweden in dyeing woollen cloth, and which when fixed with alum is both brighter and more permanent than the yellow dye procured from the Dyer's-weed. A good brown colour, and an excellent green tint, are also formed from it by some other modes of preparation. This species is common in many European countries: it is called *Sarrette* in France; and is the *Färberscharte* of the Germans. The Dutch term it *Zaagblad*; and it is known in Spain as the *Serratula de los tintoreros*. The leaves of a foreign species (*S. amúra*) are remarkable for their intense bitterness; and an Indian species is much prized in Hindoostan for its medical uses.

18. Saussúrea (Saussurea).

1. *S. alpína* (Alpine Saussurea).—*Leaves* lanceolate, flat, cottony beneath, upper ones quite entire; *root-leaves* toothed and stalked; *heads* few, in a crowded

corymb; *involucre* somewhat cylindrical, shaggy with hairs; *scales* pressed close, the outer ones shorter; *root* perennial. This mountain flower serves to commemorate a native of Switzerland, and an eminent botanist, Benedict de Saussure. It grows on the moist alpine rocks of Snowdon, and is frequent in the Highland mountains of Scotland. The stem is from eight to twelve inches high; and the purple blossom, which expands in August, is, like most alpine flowers, large in proportion to its height. Dr. Hooker saw a most curious species of this genus in East Nepal. This was the *S. gossýpium*, which forms great clusters of the softest white wool. It is six inches to a foot high, "seeming," as this botanist remarks, "uniformly clothed with the warmest fur which nature can devise."

19. Cárduus (Thistle).

1. *C. nútans* (Musk Thistle).—*Leaves* forming a wing down the stem, thorny, and deeply cut; *heads of flowers* terminal, solitary, and drooping; *scales of the involucre* lanceolate, outer ones spreading; *root* biennial. The whole of this genus well deserves the name, taken from *ard*, a point; for stem, foliage, and flower-cups, are all studded with sharp points. But the prickly habit of Thistles needs no comment; and all animals, save the donkey, are afraid to approach such well-armed plants. The spines on this species are very strong; and the large, handsome, reddish purple flowers expand from May to October, diffusing, especially in the evening, a

delicious musk-like odour. The stem is two or three feet high, little branched, and grey with cottony down; the flowers, which are too heavy to be shaken by a light summer's wind, wave to and fro before the rougher blasts of autumn.

2. *C. acanthoides* (Welted Thistle).—*Leaves* forming a wing down the stem, lanceolate, pinnatifid, and spinous; *heads* globose, nearly sessile, solitary or clustered; *scales of the involucre* narrow, awl-shaped, erect or spreading; *root* annual. This is a branched plant; its small heads of purple or rarely white flowers expanding in June and July. Its stem, winged with the thorny leaves, is three or four feet in height. It is very common by our road-sides, and grows on many of our heaths, among

> "The churlish thistles, scented briars,
> The wind-swept blue-bells on the sunny braes."

The leaves are sometimes smooth beneath, at others cottony. Professor Burnett remarks of it, "Some persons believe that it is the true Scotch Thistle, a plant of which Messrs. Dickson and Gibbs, nurserymen, near Inverness, raised in their grounds, a few years ago, to the astonishing height of eight feet, thus seeming for a moment to furnish evidence in favour of Foote's ill-natured and pricking satire, that "nothing grows to perfection in Scotland but Thistles, and they are raised in hot-beds." The Professor considers the handsome Milk Thistle to be the true Scotch Thistle, but botanists are now pretty generally agreed that the Cotton Thistle has far greater pretensions to this distinction.

3. *C. tenuiflórus* (Slender-flowered Thistle).—*Leaves* forming a wing down the stem, lanceolate, deeply cut, and spiny, somewhat cottony beneath; *heads of flowers* cylindrical, nearly sessile, clustered; *scales of the involucre* erect; *root* annual. The stem of this Thistle is from two to four feet high, winged to its very summit with the bases of the prickly leaves. It grows near towns, or on sandy places, as dry heaths, but more especially near the sea. It is a very distinctly marked species, and bears small heads of pink flowers in June and July. The long erect scales of the involucre are a striking feature in this plant.

4. *C. maríánus* (Milk Thistle).—*Leaves* sessile, clasping, waved, thorny, those of the root pinnatifid; *scales of the involucre* somewhat leafy, bending backwards, and with thorny edges; *root* biennial. This very handsome stately plant, the Virgin Mary's Thistle, is often cultivated in gardens for its beauty, but it is not commonly wild either in England or Scotland. It grows about Edinburgh and on the rock of Dumbarton; and tradition tells that it was planted in the latter place by Mary Queen of Scots. The stout and stiff stem is from three to five feet high; and the rich deep-green leaves, veined with clear white, at once distinguish the plant from all others of the Thistle tribe. The flower, which appears in June and July, is large and of a rich purple colour. It is the handsomest of our native Thistles. The young leaves make an excellent salad, and are in some countries considered a great luxury; the tender stalks, laid in water to remove their bitterness, and peeled, are a good vegetable; the scales of the involucre

are as good as artichokes; and in early spring the roots may also be boiled for the table. In Apulia the whole plant is cultivated as fodder for cattle.

20. Cnícus (Plume Thistle).

1. *C. lanceolátus* (Spear Plume Thistle).—*Heads of flowers* large, mostly solitary, stalked, egg-shaped; *scales of the involucre* thorny, spreading, woolly; *stem* winged by the thorny leaves, the lobes of which are two-cleft; *root* biennial. This is a very common Thistle on waste places and hedges, where grow

> "Insatiate thistles, tyrants of the plains,
> And lurid hemlock, tinged with poisonous stains."

Well may the plant be abundant, for the seeds float on the summer air in such profusion that the fields and lanes, for miles together, are whitened by these downy plumes, which are wafted onwards by the slightest breath of wind, gathering here and there in white masses, as some hedge, or wide-spread trunk of a tree impedes their progress. Were it not that the gold-finches and chaffinches rob many of these plumes of the seed when they detach them from the Thistle top, and were it not that the autumnal rain destroys many, the whole land would be full of Plume Thistles. Even as it is, the wind carries off many a feathery seed to a kindly soil, and the farmer finds his fields encumbered with the produce of the neighbouring hedge-bank. It is troublesome on the land by its great size, yet it is not one of the worst of weeds, because, being a biennial

plant, it may be extirpated if cut down early, befor flowering. Nor is it a useless plant on the landscape. Dr. Withering remarks, "Few plants are more disregarded than this, yet its use is considerable. If a heap of clay be thrown up, nothing would grow upon it for several years did not the seeds of this plant, wafted by the wind, fix and vegetate thereon. Under shelter of this, other vegetation appears, and the whole soon becomes fertile." The flowers, like those of the artichoke, and of several other Thistles, have the power of curdling milk. Neither sheep nor swine will touch this plant, and the horse and cow are not fond of it. It is often called Bur Thistle, and resembles the Scottish Thistle in the dull purple hue of its flowers.

The immense number of seeds produced by all the Thistles renders them very troublesome to the farmer, by spreading them with great rapidity over a large extent of soil. Some years since, a Scotsman who settled in Australia, having the strong feeling of nationality common to his countrymen, took to the land of his adoption the seeds of flowers which grew around his native home. He sowed the Thistle seed; and he was not the only one who had an abundant harvest of its plants. The fertile soil suited the intruder; and ever since, the Australian farmers have had to encounter as much difficulty in eradicating the Thistle, as the English or Scotch cultivator of his native soil has. The steppe vegetation of the Pampas, near Buenos Ayres, has been overrun in the same way by introduced plants, and bears a most luxuriant growth of magnificent Thistles. A writer in a botanical work published by

the Ray Society says, that in common with the horses and other domestic animals which, since the first colonization of these countries in the year 1535, have spread themselves widely over the steppes, European plants have also been introduced, and "having completely supplanted the endemic vegetation over extensive tracts, have given the country, in many districts, from the Plata to the Cordilleras, its present natural character, in the same manner as the Opuntia and Agave tribe have become characteristics of the shores of the Mediterranean. In this region, where at the present time horses of European origin only exist, Darwin has discovered the remains of a fossil indigenous horse of the latest geological period; and exactly in the same way, together with an endemic Thistle, which covers extensive tracts of the Rio de la Plata, has the European Cardoon obtained possession of the soil, over much wider districts. This lofty growth of Thistles is, on account of its extreme density, quite impenetrable by man or beast. Darwin is acquainted with no instance of an introduced plant occurring in such enormous quantity, and he found on prolonged land journeys the same growth frequently recurring: he even observed it beyond the Plata, and saw many square miles in Monte Video thickly covered with the same Thistle."

2. *C. palústris* (Marsh Plume Thistle).—*Stem* winged by the leaves, which are pinnatifid, spiny at the edges, and rough with prickles; *involucres* egg-shaped, clustered; their *scales* pressed close, and having a sharp point; *root* biennial. This is remarkable for its clustered heads of flowers, and for being the tallest of all

our wild Thistles. It grows on field borders, especially such as are watered by a stream, or on spots where some ditch stagnates near at hand. In moist soils the plant will sometimes attain the height of ten feet, and even in dryer places the stout hollow stem reaches the height of four feet. The flowers expand in July and August; they are purplish lilac, and sometimes white, and grow on the branches at the summit of the stem. The leaves are very thorny, the thorns often tinged with brown; the tender stalks of the leaves may be eaten either raw or boiled.

3. *C. arvénsis* (Creeping Plume Thistle).—*Leaves* spinous; *involucre* egg-shaped, nearly smooth; its *scales* broadly lanceolate, closely pressed, terminating in a short spine; *root* creeping. In one form the leaves are sessile, pinnatifid, or very wavy; in another they are oblong, broad, and lobed, and run down the stem; and in a third they are flat, entire, or slightly lobed. This Thistle of our field borders is more frequent than welcome, its creeping perennial root rendering it one of the most difficult to eradicate of all our native species; and its leaves are so prickly, that we might say with Chaucer,—

> "For thistels sharpe of many maners,
> Netlis, thornes, and crooked briers:
> For moche they distroubled me,
> For sore I dradid to harmid be."

It is a handsome plant, about two feet high, its flowers, in July, forming clusters of a light-purple colour, and of a sweet musky odour; and it is remarkable for bearing in the axils of its leaves galls, which are said to

be powerfully astringent, and to be useful in cases of hæmorrhage. The trouble which this thistle causes to the agriculturist induced our fathers to call it the Cursed Thistle, and truly it requires no small care and industry to keep it within bounds. It is generally found in dry, loamy soils, seldom occurring in any quantity in sand or gravel. A case is recorded in the *Farmer's Magazine* in which the descending roots of the plant were dug out of a quarry, and were nineteen feet long: nor are the horizontal roots of less amount. Mr. Curtis planted once, in April, about two inches of the root of this Thistle, in his garden. By the following November, it had thrown out stolons all around, several of them being eight feet long, and some sending up leaves five feet from the original root. The whole having been taken up, as it was supposed, and washed, was found to weigh four pounds. But it was not yet eradicated, for next spring it appeared again, nearly about the same spot; and between fifty and sixty young plants appeared from the fragments of the root which had been left in the soil, notwithstanding all the efforts of the gardener to exterminate them. On some ill-cultivated arable lands this Thistle often forms half the produce, when they afford ample employment to weeders, who, supplied with strong gloves and pincers, busy themselves in spring in striving to banish it from the soil. Some English botanists doubt if cows and horses will eat it, but Mr. Loudon remarks on this subject: "Those who know anything of the history of agriculture in Scotland before the introduction of turnips, will recollect that it formed the suppering of housed cattle during five or six weeks

of every summer." The ashes of this plant yield a very pure vegetable salt; and another plant of the same genus, *C. oleraceus*, which is said to have been gathered wild in Lincolnshire, has fleshy roots like the skirret, that may be boiled for the table. It was found in 1823 in this country, but is not a native plant. It is much eaten by the Russians, who boil the leaves in spring, as the Siberians do both the leaves and roots of various species. This Creeping Thistle is sometimes called Horse Thistle. Like the other kinds, it has an abundance of seeds, and Spenser might have been watching its plumes when he wrote the comparison—

> "Els as a thistle-doune in the ayre doth float,
> So vainly shalt thou to and fro be tost;"

but an inspired poet had anticipated the comparison: for Isaiah spoke of "the rolling thing before the whirlwind;" which learned commentators say should be, "the thistle-down before the whirlwind." Children pick the thistle-plumes for filling cushions; and though it is a tedious process, yet sometimes the thoughts of making a pillow for some one who is poor or sick helps to perseverance, and the employment may be made to awaken kindness and sympathy, as well as to prompt to active exercise in the open air. The plant has prickly leaves, and merits its name, if Wachter's account of the origin of the word "thistle" be true. The Anglo-Saxon *thistel* he thinks may have been *thyd-sel*, from the verb *thyd-an*, to prick. The Dutch and Germans call the plant *Distel;* and the Danes, *Tidsel.* In France it is called *Chardon*, and in Italy *Cardo.*

4. *C. eriŏphorus* (Woolly-headed Plume-thistle).—*Leaves* half-clasping, but not forming a wing down the stem, white and cottony beneath, deeply pinnatifid, the lobes two-cleft, the segments pointing alternately upwards and downwards, and each terminated by a strong spine; *involucres* very large, globose, woolly; the *scales* with a long spinous point turning downwards; *root* biennial. This species is distinguished from the others by the very thick down which clothes the scales of the involucre, and which prevents the seeds from readily dispersing. It grows in waste places on a chalk or limestone soil, but is local in England, and very rare in Scotland. It has purple flowers, as large as those of the Milk Thistle, and its leaves are clothed with white down; but the branched furrowed stem is rarely more than two feet high. It blossoms in July and August.

5. *C. heterophýllus* (Melancholy Plume Thistle).—*Leaves* partly clasping, not forming a wing, lanceolate, soft, undivided or toothed, smooth above, white and downy beneath; *heads* mostly solitary; *involucres* egg-shaped, slightly downy; *scales* pointed and closely pressed; *root* perennial. This handsome flower has nothing sad in its appearance, for the colour of its blossom is a rich amethyst purple, and its involucres are of a bright, though dark, green colour; but it was formerly used by empirics as a medicine in hypochondriasis. It is frequent on the mountainous pastures of the North, and is not uncommon on moist hilly places in many parts of the kingdom. It has a creeping root, and a cottony stem, marked with lines, and about three feet high. It stands almost alone among this thorny

tribe, as being a Thistle which one may venture to gather without wounding the fingers.

6. *C. tuberósus* (Tuberous Plume-Thistle).—*Leaves* sessile, not forming a wing, lanceolate, deeply pinnatifid, lobed, fringed with minute prickles; hairy above, and either hairy or cottony beneath, lower ones on long stalks; *stem* without prickles; *flowers* one, or two or three together; *scales of the involucre* closely pressed, nearly smooth, pointed, with a spine; *root* perennial. This is a rare Thistle, found on the Wiltshire Downs, and flowering in July and August. The roots are fleshy knobs, and contain a large quantity of starch-like substance, which is mingled with a bitter, tonic, and nutritious principle; and the powder into which they may be ground is so light in quality, and so very nutritive, that it has been recommended as a good diet for consumptive persons.

7. *C. praténsis* (Meadow Plume-Thistle).—*Leaves* mostly from the root, soft; *stem-leaves* sessile, lanceolate, waved at the margin, fringed with minute prickles, cottony beneath, and somewhat downy above; *heads* globose, mostly solitary, terminal, and slightly cottony; *scales* closely overlapping each other, pointed; *root* perennial and creeping. This is a small plant, with a cottony stem, from six to eight inches high, bearing one or more purple flowers in July. It occurs in low wet pastures in England, but is rare in Scotland.

8. *C. acaúlis* (Dwarf Plume-Thistle, or Stemless-Thistle).—*Stem* very short, or scarcely any; *leaves* all from the root, smooth, lanceolate, somewhat oblong and pinnatifid; *lobes* somewhat three-cleft, toothed

and spinous; *heads of flowers* mostly solitary; *involucre* smooth, with closely pressed, pointed scales; *inner scales* usually longer than the outer; *root* perennial. This plant is better named Dwarf than Stemless Thistle, as it sometimes, though rarely, has a stem an inch or more long; but very generally the flower nestles down among the leaves, which spread all around it. This circumstance at once distinguishes this Thistle; and in some parts of the country, as on Royston Heath in Cambridgeshire, and on the chalky downs about Dover, it is a frequent and very troublesome plant, occupying much room on the level plain or sunny slope, and, by preventing the growth of the grass, proving very destructive to the pasture. The flower is deep reddish purple, large, and handsome. It expands from July to September.

21. Onopórdum (Cotton Thistle).

1. *O. Acánthium* (Common Cotton-Thistle).—*Leaves* oblong, toothed, spiny, woolly on both sides, and forming a wing down the stem; *involucre* globose, its scales spreading, and awl-shaped; *root* biennial. This Thistle has its specific name from the leaves, which are somewhat similar in form to those of the Acanthus, the plant which is believed to have furnished the ancients with the design of the elegant leaf used in their architecture. That plant is supposed to be the *Acanthus mollis* of Southern Europe, and is quite distinct from the Thistle tribe. The handsome Cotton Thistle is the one which the Scotsman claims for his badge, and which is often

cultivated under the name of the Scotch Thistle. It certainly deserves to be so regarded far better than any other species. It is not, however, so common in Scotland as on the English soil, where it is one of the most frequent plants of its family, abounding on spots of waste ground, from the towering cliff, where it rears its head among the crevices, down to the lowliest valley or the brambled nook, where grasses, docks, and nettles tangle among it, and where its purple flowers rise above them all on a stem from four to six feet in height. It has a thorny flower-cup, and thorny leaves; and if legends be true which tell that the invading Dane trod on a Thistle, and by his cry awoke the Scots who were sleeping near, believing in the honour of plighted truce —then this Thistle is well suited to recal the incident, and to bear the old legendary motto. That proud and defiant motto, indeed, *Nemo me impune lacessit*,—"No one touches me with impunity," which has jocosely been rendered into homely Scotch, by "Ye maunt meddle wi' me,"—seems well suited to this thorny Thistle, which none could grasp with impunity. The Scotsman is proud of his emblem, and indeed the Thistle is one of the most picturesque of our native flowers, and a flower mentioned in earliest history. True, God sent it as a curse to toiling man—true it may be, that Eve beheld its purple rays through blinding tears,—yet with that curse came mercy; and as toil sweetens rest, so those soft amethyst tints give a grace to the thorny plants. The order of knighthood called the Order of the Thistle is said by Nisbet and other Scottish antiquaries to be a very ancient one, and to have been instituted by

Achaius, king of the Scots, when he obtained a victory over Athelstan; but this is not apparent from any authentic records, nor does the Thistle appear to have been employed as a royal or national badge before the latter part of the fifteenth century. The first mention of it occurs in the inventory of the effects of King James III., who died A.D. 1488. It also appears on the collar worn by James V., and was subsequently worn by his successors. The insignia borne by the knights of the Order of the Thistle, is a gold collar with thistles and sprigs of rue interlaced. A gold medal is also worn, bearing a figure of St. Andrew, with his cross of martyrdom, within a circle containing the national motto. The rue was probably significant of remembrance; and on various works of art we find the Thistle popularly used without the rue, but with the motto beneath it, "Dinna forget." Graham refers to his nation's flower:

> "Proud Thistle, emblem dear to Scotland's sons,
> Begirt with threatening points, strong in defence,
> Unwilling to assault! By thee the arm
> Of England was repell'd: the rash attempt
> Oft did the wounded arm of England rue;
> But fraud prevail'd where force had tried in vain,
> Fraud undermined thy roots, and laid thy head,
> Thy crested head, long sullied in the dust."

Happily, however, these national prejudices and dislikes have passed away, and the Englishman looks on the Thistle in the badge of his country with as much satisfaction as on the Rose. Robert Nichols, and many another Scottish poet, has verses in its praise:—

"May it flourish, its home is our dear native land;
While there's life in ilk heart, while there's strength in ilk hand;
Be't by night or by day—be't by sea or by land,
We 'll stand by the auld Scottish Thistle.

"While we hallow the graves of the free and the brave,
While the land hath a stream, while the sea hath a wave,
While the bold are the free, and the coward 's a slave,
We 'll stand by the auld Scottish Thistle.

"For the love of the maiden, the praise of the free,
For the blessings that father and mother will gi'e,
For the hames that are dear both to you and to me,
We 'll stand by the auld Scottish Thistle."

The Scotch Thistle, though peculiar to no soil, seems to flourish best upon gravel. Its somewhat dark purple flowers, which are mostly solitary, though sometimes two or three together, are large, and expand in July and August. The plant was formerly cultivated for its esculent fleshy receptacle, but the culture of the artichoke and of the cardoon has superseded its use. According to Gerarde, the artichoke was introduced into this country in the sixteenth century. The Spaniards call our Scotch Thistle *al-cachofa* (wild artichoke), and consider it as a dietetic vegetable. It appears, from some lines in Browne's Pastorals, to have been formerly so regarded here.

"With a right willing hand, she gave me thence
The stomacke's comforter, the pleasing quince;
And, for the chiefest cherisher, she lent
The royal thistle's milky nourishment."

The expressed juice, as well as a decoction of the astringent root of this Thistle, has been used in medicine with good effect. The seeds are oily. M. Durand

states, as the result of his frequent experiments, that twenty-two pounds of the thistle-heads yield twelve pounds of seeds, from which three pounds of oil fit for burning may be expressed by the aid of heat.

Various alterations in the nomenclature of the Thistles have occurred; and the Gentle Thistle, Asses' Thistle, Fish Thistle, Cursed Thistle, Cruel Thistle, Friars'-crown, Thistle upon Thistle, and other well-known plants of other days, cannot now be exactly identified. Almost all our common Thistles belong to the genera *Carduus* and *Cnicus*. The receptacle of the larger kinds, and the young shoots of nearly all the species, may be eaten; and the Romans appear to have used some at table, though the species cannot be ascertained, *Carduus* being among the Romans the common name for the thistle tribe. "It occurs," says Beckmann, "among those of weeds, and may then be properly translated by the word Thistle. It, however, often signifies an eatable thistle; for Pliny took occasion to make use of an insipid piece of raillery when he says, that 'Luxury prepared as food for man what would not be eaten by cattle.'" He adds, that we are informed by Pliny and Apicius that the *Carduus* was pickled in vinegar; but it may be the young tops of the thistle or the artichoke, or even the burdock. "Elsholz," he remarks, in his "Gartenbau," referring to the Cardoon, "says, 'The strong stem of the large Burr (*Arctium Lappa*) may be dressed in the same manner, and is not much different in taste.'" The Plague-water, so celebrated a remedy of our ancestors in the seventeenth century, is said by Dr. Millingen to have been composed of masterwort, angelica, peony,

butter-bur, viper-grass, Virginia snake-roots, rue, rosemary, balm, carduus, water-germander, marigold, dragon's-blood, goat's-rue, and mint, infused in spirits of wine. The following poem was written by H. G. Adams, for this volume :—

THE THISTLE.

"Of a proud and ancient family,
Of a vigorous old stock,
Is the stout and sturdy Thistle,
Which bides the tempest's shock;
Which, when the wild blast sweeps the hill,
And the torrent ploughs the vale,
Right steadily abideth still,
And never turneth pale,
But saith, 'No elemental power
Against me shall prevail!'

"Would you see the Thistle in its strength,
And view it in its pride,
Go where the summer sunshine steeps
The moor and mountain side.
Go where the hoary ruin nods,
And the grey cairn lifts its head,
And the Gael lays him down to sleep
Upon a heathery bed,
With his nation's emblem at his feet,
And the blue sky overhead.

"To read the Thistle's pedigree,
Your backward glances cast;
For it stretches far and far away
Into the misty past,
Beyond all ancient history,
To the dawn of earthly time,
Where the golden fruits of Paradise
Gleam in the dewy prime:
Alas, that even there we read
Of human woe and crime!

"Would you ask whence came the Thistle,
And when it first unfurl'd
Its crimson banner on the hills,
Defying all the world?
It came in with the Conqueror—
But that Conqueror's name was Death,
When man through disobedience fell,
And first knew failing breath;
Then Thistles grew about his path,
And thorns his feet beneath.

"A blazonment the Thistle hath,
A motto proud it bears,
'*Noli me tangere*' the words—
Touch me the man who dares!
But for all its vaunting, it full oft
Is taken by the beard,
By the horny hand of toil that ne'er
Its family hath fear'd;
And the ploughshare rends its stalwart frame,
When the fallow lands are clear'd.

"Yet soon again it springeth up,
Displays its crimson crown,
And spreads abroad its progeny
In clouds of seeded down.
They gather here, they gather there,
They root them in the earth;
Anon rough leaves and prickly stems
O'er all the land have birth,
And they grow and thrive exceedingly,
Careless of drought and dearth.

"Full many a relative hath he,
This plant of old renown—
Some, dwellers in the wilderness,
Some, by the busy town.
The traveller meets them everywhere,
And blesseth God the while,

Who giveth beauty with the curse,
And sanctifieth toil,
And maketh even the dreary waste
Like a fair garden smile."

22. Carlína (Carline Thistle).

1. *C. vulgáris* (Common Carline Thistle). — *Stem* many-flowered, downy; *leaves* lanceolate, unequally spinous, and deeply toothed, downy beneath; *root* biennial. Wherever we see this plant, we may feel assured that the soil is barren; and one may bless the great Creator that, barren as it is, some gay flower is yet destined to enliven it, seeming like a gleam of sunshine on a winter's day, or a sudden hope brightening over a brow of care. Many rocky, arid wastes, many dry heaths, or chalky cliffs, or hilly slopes, covered with short grass and bluebells—spots where the lover of wild flowers delights to roam, and on which the memory often lingers—are ornamented by this prickly thistle. Such spots seem particularly associated with the idea of freedom. The landscape stretches far away, and the roaming winds and roving bee seem free as the air which bears them onwards. Scenes like these are just such as the captive in his cell would picture in his longing dreams, and might, as we wander about them, awaken a thought of pity for those who are shut out from all the loveliness of nature. Crime, or care, or cruel war, may have placed them within the dreary walls, but either should claim the pity of weak and erring mortals; and we need not wait till we come to kneel in the sanctuary, ere we offer the heart's prayer,

"that God would have mercy upon all prisoners and captives."

Those who are not botanists may at once know the Carline Thistle from all others by its pale yellow flower, for all our common thistle blossoms are of some shade of purple. Indeed, even in this thistle the florets are purple; but they are surrounded by a yellow, glossy, chaffy ray, which looks like an assemblage of petals, but which is, in fact, composed of the inner scales of the flower-cup, and which, in winter time, when flower and leaf are alike withered, glistens on the stem like rays of polished silver. Before expansion, as well as during moist weather, these chaffy scales rise up to protect the inner part of the plant from rain and dew. The flower resembles in texture those garden blossoms which we call Everlastings, and will preserve much of its beauty for months after it is gathered. It grows on a cottony stem, about a foot high, and the involucre and leaves are very rigid and thorny. The flowers expand from July to October, and though not unfrequent in England, are rare in Scotland. Either this or some allied species grows in more or less abundance in almost all the countries of Europe, and in sandy situations in almost every part of the world. Linnæus, regarding it as an indication of a barren soil, calls it "a mournful spectacle." It has black, woody roots, which are said to be eaten when young, but which are certainly, when older, acrid and disagreeable. The receptacle of the flower is, however, a very good vegetable, and is often eaten; while another species of Carline Thistle (*C. acanthifólia*), which grows in abundance

on the mountains of Dauphiny, is commonly used there as a substitute for the artichoke. The habit of closing its flowers before rain renders the Carline Thistle a favourite village hygrometer; and both this and another species are hung against the cottage doors of France, Germany, and Spain, to give reports of coming changes. The French call it *Carline;* the Germans, *Eberwurz;* the Dutch, *Everwortel;* the Italians and Spaniards, *Carlina;* and the Russians, *Kolintschka.*

The bark of our Carline Thistle abounds in a resinous, gummy matter, and the *Carlina gummifera* has a similar substance in great abundance, both root and flower yielding a gum which hardens into small pieces like gum-mastick. The root of this kind is said to be poisonous. From time immemorial both this and our native species have been used medicinally, and their fleshy receptacles not only eaten as a vegetable, but often preserved as a sweetmeat with honey or sugar. Olivier de Serres says that the Carline Thistle received its name from Charlemagne, whose army was cured of the plague by its use; a story which, improbable as it is, is less so than the introductory circumstance, that an angel directed this monarch to the plant. Linnæus ascribes the origin of its name to the circumstance that the army of Charles V., when in Barbary, was cured by it of that dread disease. The plant possesses some tonic and stimulating properties.

23. CENTAURÉA (Knapweed, Bluebottle, and Star Thistle).

1. *C. Jácea* (Brown-rayed Knapweed).—*Leaves* egg-shaped and lanceolate, stalked, toothed; *involucre* pale brown, outer scales few, with appendages deeply jagged in a pinnatifid manner, innermost entire, the rest jagged irregularly; *root* perennial. This is a very rare species, and is perhaps not truly wild, one specimen only having been found in Sussex, and another in Lanarkshire. It bears purple flowers in August and September, the heads being rayed, and the seeds having no pappus. The plant has, on the Continent, been much used as a febrifuge, and appears to possess some good medicinal properties; several of the species contain, like the Great Yellow Knapweed of Italy (*C. centaurium*), a most powerful bitter principle. This plant is by some botanists thought equal to Gentian, and the long-celebrated Blessed Thistle (*C. benedicta*) was formerly considered a most valuable herb. It was cultivated by the monks, and is still to be seen in many an English garden. It was thought to cure fevers, the plague, and other pestilential maladies. It is little esteemed now, but Professor Burnett remarks of it: "Although now neglected, its properties are such as to lead to the belief that it has been superseded by other not more efficacious remedies, its chief fault being the ease with which it may be obtained; for with too many persons the difficulty of procuring, the distance it must be fetched, or the exorbitant price, are considered to be the essential pre-requisites of a medicine." The French

give the name of Blessed Thistle to a plant of another genus. Their *Chardon beni* is the *Carthamus lanatus*.

2. *C. nígra* (Discoid Knapweed).—*Involucral appendages* erect, egg-shaped, cut like the teeth of a comb, closely and deeply fringed with spreading hair-like teeth, lower leaves deeply toothed, somewhat lyre-shaped, upper ones lanceolate, all rough; *pappus* an outer row of blunt scales; *heads of flowers* in one form discoid, in another rayed. A plant called Black-rayed Knapweed (*C. nigréscens*) is described by Mr. Babington as a distinct species, but some writers doubt if it is so. Its general appearance is much like that of *C. nígra*, but it is a stouter and more leafy plant, with a larger flower, which is generally rayed. The involucral appendages are erect, egg-shaped, cut like the teeth of a comb, about three of the innermost separated from the rest, and exposing the scales; the narrow, thread-like teeth ascending, very short; the pappus almost wanting; the leaves narrow, lanceolate; the lower ones deeply toothed, or somewhat lyrate. This plant is found in some meadows and pastures in the west of England. Our common Discoid Knapweed (*C. nígra*) is to be found everywhere, being from June to August one of the commonest flowers of our meadows and pastures, growing by road-sides, on field borders, or sea cliffs, and having a tough stem one or two feet high. The tint of the purple flowers is somewhat dull, and they are seldom rayed; the scales of the involucre are brown, almost black. This plant is often called Hard-head, and several of the species have the familiar name of Iron-weed. They are regarded by the agriculturist as troublesome intruders on the land,

being difficult of extirpation, and seldom touched by cattle either in the green or dried state. A Russian species of this genus is the favourite food of the Crimean sheep, and is supposed to give the beautiful grey to the wool of lambs, so highly prized both in Turkey and Tartary as an ornament to the calpack or cap worn by Tartar gentlemen instead of a turban.

3. *C. Scabiósa* (Greater Knapweed).—*Scales of the involucre* closely pressed, with a black finely-toothed margin and paler fringe; *leaves* somewhat rough, pinnatifid, segments lanceolate, acute; *pappus* hairy; *root* perennial. This is a very handsome species, not having dull, compact, purple heads, like those of the Black Knapweed, but the flowers having spreading rays, sometimes forming a circle as large as a crown piece. The involucre, too, is large and globose, its scales of lighter colour, often cottony, and the whole plant taller and stouter. It grows in meadows, corn-fields, and sunny banks, needing not any luxuriance of soil; for, on the cliffs of Dover, it forms in July and August magnificent clumps of bright purplish-lilac flowers, and often graces them in November with an occasional blossom. Sometimes these flowers have a sweet though faint odour, which, though not so powerful, resembles that of an allied garden flower, the Sweet Sultan (*C. moschâta*), which our fathers called Honeyflower. Our Knapweed grows on a stem about two or three feet high: the involucres are often as large and almost as hard as a marble. To which of our species the old legend refers as being used by Chiron, it would be hard to say. "The Greater Centaurie," says Pliny, "is that famous hearbe wherewith Chiron the

Centaure, as the report goeth, was cured, at what time as having entertained Hercules in his cabin, hee would needes be handling and tampering with the weapons of his said guest so long, untill one of the arrows light upon his foote, and wounded him dangerously."

4. *C. Cyanus* (Corn Bluebottle).—*Scales of the involucre* closely pressed, with a brown toothed margin; *leaves* narrow, lanceolate, entire, the lowermost toothed or pinnatifid; *pappus* downy; *root* annual. This flower, arrayed in the most brilliant blue tint, waves among the ripening corn from the end of June till the reaper lays it low in August. It is one of our prettiest wild flowers, and has a stem two or three feet high, covered with a cottony down, which also invests the under surface of its leaves.

The poetic fable which tells that the youth Cyanus spent hours in the corn-fields, wove its blossoms into garlands, and admired them above all others, accounts for its specific name; and many a country child yet sits by the side of the waving corn, binding this flower into its nosegay. The German ladies often place it in their hair, and they give it many pet names; while the gardener has brought it from the field to the garden bed, and by his care and skill increased the number of its florets, and sometimes varied their hue. It looks well in the flower-border, though never so pleasing as when growing among the golden ears, with the poppy and scabious for its companions. It is pre-eminently the Corn-flower, and either this or some nearly allied species decks the corn-fields throughout Europe. It is known in Germany as the *Kornblume;* in France, as the *Bluet;* in

Italy, as the *Ciano;* and it is the *Aciano azuleio* of the Spaniards. It has in this country many pretty and expressive country names. Dr. Turner, who wrote in 1564, calls it Blewblawe, as well as Blew-bottle; and it is still the Corn Bluebottle of our country people, probably because of the vase-like form of its outer florets. Gerarde calls it also Hurt-sickle; and he tells us that it was often sown in gardens, and by "cunning looking to doth oftentimes become of other colours, and also double." Dr. Turner also says, "Some herbarists call it *Baptistecula*, or *Blaptisecula*, because it hurteth sikles, which were called of olde writers *Seculæ*." In Scotland it is now termed Blue-bonnet. We have often heard it called Blue-cap in Kent, and the Northamptonshire peasant calls it so.

"From the first time the Spring's young thrills are born,
And golden catkins deck the sallow tree,
Till Summer's Blue-caps blossom 'mid the corn,
And Autumn's ragwort yellows o'er the lea,
I roam'd the fields about, a happy child,
And bound my posies up with rushy ties,
And laugh'd and mutter'd o'er my visions wild,
Bred in the brain of pleasure's ecstasies."

A very beautiful blue colour, almost equal to ultramarine, may be procured from our Corn-flower, by picking out the central florets, which are of deeper blue, and by pounding them, while quite fresh, in a glass or marble mortar, so as to obtain the juice; a small quantity of alum should then be mixed with it, and it is fit for use. If a paler blue should be required, the outer florets should be taken. It will stain linen of a rich azure tint. Beautiful as the colour is, it cannot, how-

ever, be praised, at least when prepared as we have described, for its permanence. Miniature painters are said to use it, and in the first edition of "English Botany" a separate blossom, figured at the bottom of the plate, was painted with the juice of this Corn-flower, and now remains an evidence of the fugitive nature of this tint thus procured; yet a good ink is said to be made of the petals. The blue tint of the Corn-flower itself, when on its native field, is so rich that no artificial colour can well represent it. It is sometimes, both in its wild and cultivated state, of a dark purple hue. Several of the species besides this are planted in the flower garden.

The author has often observed the Bluebottle to be a favourite both of the bee and butterfly; and Professor Rennie remarked this when commenting on the power of smell in insects, although in the case to which he alludes the insect might have been directed by sight as much as by scent. "We have observed that butterflies of all species, though far from being voracious feeders, will often dart down from a considerable height upon a flower beneath their track. This struck us more particularly in a narrow garden at Havre-de-Grace, enclosed with stone walls fifteen feet high; for no butterfly in passing over it omitted to descend for the purpose of visiting the blossoms of an Alpine Bluebottle (*C. montana*), whose smell, however, to our organs was far from being powerful enough to be perceived at the distance of one foot, much less at fifteen or twenty feet, as it must have been by the butterflies, for we often saw the Painted Lady (*Cynthia cardui*) alight there."

5. *C. Isnárdi* (Jersey Thistle).—*Scales* of the involucre with palmate, nearly equal spines; *heads of flowers* terminal, solitary; *pappus* of the fruit in several rows; *leaves* rough, lower ones somewhat lyrate, deeply cut, with ears clasping the stem; upper ones long and slender, coarsely toothed, and narrowed at the base; *root* perennial. This plant, which bears small purple flowers in July and August, is found in pastures of Jersey and Guernsey. It does not occur in England, Scotland, or Ireland.

6. *C. Calcítrapa* (Common Star Thistle).—*Scales* of the *involucre* smooth, ending in a long firm broad-channelled spine; *stem* branched, spreading; *leaves* unequally pinnatifid, toothed, and spiny; *stem-leaves* slender and undivided; *root* annual. This plant is very local, but it is not unfrequent on many gravelly, sandy, or chalky soils in the south of England. The author has often found it in Kent, as on chalky banks on Chatham Hill, and also on the cliffs and shingle of Dover. It is very unlike any other of our wild flowers in the spreading long thorns of its flower-cup, which are at first green, but which become afterwards very hard and woody, and as strong and sharp as the thorns on a May-bush, and large enough to attract the attention of the most casual observer. This appendage to the scales of the involucre procured for the plant its specific name, for it much resembles the implements used in ancient warfare, and called *Caltrop*, which was an iron ball set with iron spikes, and which, being thrown beneath the feet of the horses, cruelly wounded these animals as they pressed onwards

Sub-Order III.—Corymbiferæ.

1. Tubifloræ (The Tansy Group).

24. Bídens (Bur Marigold).

1. *B. cérnua* (Nodding Bur Marigold).—*Leaves* sessile, lanceolate, undivided, connate; *flowers* drooping; *bracts* longer than the involucre; *fruit* usually with 3 or 4 bristles; *root* annual. The sides of streams and rivulets are the spots on which we must look for this plant. It is not, however, very ornamental to them, for the large button-like flowers are of a tawny brown or yellowish green colour, having at their base a number of leafy bracts. The stem is one or two feet high, and somewhat succulent, as are the large smooth leaves. The oblong fruit terminates in stiff bristles, which are three or four in number, and each of which, as may be clearly seen by a glass, is turned back like the point of an arrow, so as to cling to the wool of an animal, the clothing of man, or any other object with which it may come in contact. Dr. George Johnston, in his "Flora of Berwick," furnishes us with some very interesting comments on this plant. "The following remarks," says this writer, "were communicated to me by Mr. Brown:—'Annual plants, it has been observed, produce in general more seed than perennial; and the reason is obvious. The Bidens is annual, and we might expect it to have the benefit of this provision; for, indeed, the circumstances of its growth seem to call for greater productiveness than is common even among annuals

It is found by the sides of ponds and ditches, and its seeds are thus ever in danger of being blown either to the dry land, or to the deeper parts of the pond. In either case they must perish. On the dry land they are useless, for it is a water plant; and on the other hand, if blown to the deeper parts they will sink to the bottom, and never germinate, or germinate in vain. Now, though these seeds are exposed to so many dangers, and though the continuance of the species depends on their preservation, yet is their number by no means great. The flower-heads are small, and never numerous; the seeds large in proportion, and, of course, few are produced by a single plant. This apparent deficiency is, however, well compensated by a peculiar provision. The seeds are four-cornered, and the corners are furnished with sharp deflexed prickles. Each of these corners is also prolonged into an awn still more thickly set with prickles than the corner itself. Now, the intention of this conformation is obvious. The seed falls with the awns pointing upwards, the prickles come into action, attach themselves to the various plants which float at or near the surface, and becoming fixed, germinate in a favourable situation; for as the deflexed prickles fix to the first object which they meet, the seeds are kept as near as possible to the stations of the old plants, and prevented from being carried either on shore or into places which are too deep. How well the prickles are fitted to perform their office may be gathered from a fact mentioned by Lightfoot, that the seeds of the *Bidens tripartita* have been known sometimes to destroy the *Cyprinus auratus*, or gold fish, by adhering to their

gills or jaws.' So closely do they attach themselves to whatever they come in contact with! May not this structure of theirs save them also from the depredations of birds?"

We are much indebted to botanists who will prosecute investigations of this kind, and point out these skilful contrivances and adjustments. To many a heart these obvious marks of God's care bring cheering thoughts—remembrances that they and their sorrows are not too small or unimportant for His notice. They encourage the heart to rise to God in the small as well as the great events of life; and when this communion between the creature and the Creator is once established, sorrows are consoled and lessened, and understood to be blessings. The calmness and happiness of naturalists is often commented upon; and though it would be folly to affirm that every naturalist is a Christian, any more than that every naturalist is happy, still it will be manifest that the mind accustomed to look from these evidences of design to the great Designer, must gain a conviction of His skill and love which may support and cheer, and produce a calm reliance on His goodness.

The Nodding Bur Marigold is in flower from July to October, and, as one might infer from its acridity, it is not relished by cattle, and when chewed excites salivation. Both this and the next species have been used in dyeing yellow. The French call the plant *Le Bident;* and it is *Der Zweyzalen* of the Germans. It is in Holland termed *Tandzaad;* in Spain and Italy, *Bidente;* and is the *Brönsel* of the Danes.

2. *B. tripartíta* (Trifid Bur Marigold). — *Leaves* 3-parted, serrated; *heads of flowers* nearly erect; *bristles of the fruit* 2 or 3; *root* annual. This is readily distinguished from the other species by the thrice-parted leaves; the flowers are also smaller, and scarcely drooping. It is in blossom from July to September, on marshy bogs, or by rivers and streams, and possesses a similar acridity to the last species. Both kinds have sometimes a ray of small florets without stamens or pistils.

25. Diótis (Cotton-weed).

1. *D. marítima* (Sea-side Cotton-weed).—*Leaves* oblong, blunt; *heads of flowers* small and terminal; *root* perennial. This is a rare plant of the sandy sea-shore, with small white heads thickly set with leaves, and both stem and foliage so covered with down as to look as if they had on them a thin coating of lint; and among this crowd of leaves and the scales of their own cups the little yellow blossoms are almost hidden. The plant is about a foot high, and is in flower from August to September. Its roots run far into the sand, and its branched stems are very brittle. It is found principally at the east and south-east of England, in some localities growing plentifully. It is slightly bitter and aromatic; a larger species, found in the East Indies, (*Diótis candidissima,*) is very powerfully so, and is used medicinally

26. Tanacétum (Tansy).

1. *T. vulgáre* (Common Tansy).—*Leaves* twice pinnatifid, cut; *flowers* in a terminal corymb; *root* perennial. The Tansy sometimes grows on field-borders and roadsides, and is often found in great luxuriance on banks by the sea, as at Sandgate, in Kent, or on river-sides, as on the shores of the Avon. Its yellow flowers, during June and July, stand like masses of golden buttons among its dark green, prettily cut foliage. The stem is about two or three feet high, and the whole plant is bitter and aromatic, and useful in medicine. Some persons like its flavour, but to most it is so disagreeable that we wonder not that it was selected for eating at Easter season as a representative of the bitter herbs commanded to be taken with the Paschal lamb. One can well understand how cakes made of this plant, and called Tansies, might have been eaten for the purpose of mortifying the appetite, or intended, by their somewhat tonic properties, to sustain the strength during a season of fasting; but that tansy puddings should be relished as a pleasant food, and tansy omelets prized as delicacies, seems strange to the many who dislike the taste of the plant. It is probable that the flavour of Tansy was more generally liked in former times than in ours. Gerarde says: "In the spring-time are made with the leaves hereof, newly sprung up, and with eggs, cakes or tansies, which be pleasant in taste, and goode for the stomacke. The roote preserved with honey or sugar is an especial thing against the gout, if every day for a certaine space a reasonable quantitie thereof be

eaten fasting." An allusion in a poem of the seventeenth century proves also that the tansy cake was regarded as a sweetmeat :—

> "At stool-ball, Lucia, let us play,
> For sugar-cakes or wine;
> Or for a Tansy let us pay,
> The loss be thine or mine."

A very good green colouring matter may be extracted from the roots of the common Tansy, which the Finlanders use to dye their clothes. Dr. Withering says, that if meat be rubbed with the Tansy the flesh-fly will not touch it, but when the meat is afterwards eaten, it will probably require the aid of some strong condiment to remove the flavour left by the plant. Tansy wine is a favourite village medicine for children, and is a good stomachic bitter. In Scotland it is much used as a cure for the gout. The French call the plant *Tanasie;* the Germans, *Reinfahren;* the Dutch, *Reinevaren;* the Italians, *Tunaceti;* the Portuguese, *Tanasia.* Most of these names are corruptions of the word *Athanasia,* which signifies a plant that cannot perish, but of which the application is not obvious.

One of the prettiest plants in the garden in the month of April is a variety of this herb, called Curled Tansy. Its beauty at that early season is a great addition to the garden border, as its green is of the most lively hue, and no leaf which grows can better deserve the epithet of feathery. In olden times, no garden would have been complete without its clump of Tansy :—

> "And where the marjoram once, and sage, and rue,
> And balm, and mint, with curl'd-leaf parsley grew

And double marigolds, and silver thyme,
And pumpkins 'neath the window used to climb;
And where I often, when a child, for hours
Tried through the pales to get the tempting flowers,
As lady's laces, everlasting peas,
True-Love-lies-bleeding, with the hearts-at-ease,
And golden rods, and tansy running high,
That o'er the pale-tops smiled on passers-by."

27. Artemísia (Wormwood, Southernwood, Mugwort).

1. *A. campéstris* (Field Southernwood). — *Leaves* smooth above, silky beneath, once or twice pinnate, with narrow pointed segments; *stems* prostrate before flowering; *scales* of the *involucre* with a thin white edge; *root* perennial. This is a very rare plant, growing on sandy heaths in Norfolk and Suffolk, bearing yellow flowers in August and September. The involucre is of purplish-brown colour, and the slender flowering-stem is one or two feet long.

2. *A. vulgáris* (Common Mugwort).—*Leaves* pinnatifid, with acute segments, white, with down beneath; *heads* oblong, somewhat racemed; *scales of the involucre* woolly; *root* perennial. This plant, which is common on waste places by the road-side, or on pebbly beaches, is easily known from the other species by its dark-green leaves, having, beneath, a thick coating of cottony down, in which also the young shoots are quite enveloped. It is, too, destitute of that aromatic odour which distinguishes most plants of this genus. It was in former days placed in baths, and thought to have great effect in relieving the sense of fatigue; and the pilgrim was accustomed to lay its leaves in his shoes

in full faith in its efficacy to strengthen him. Pliny said, "The traveller or wayfaring man that hath the hearbe tied about him, feeleth no wearisomnesse at all; and he can never be hurt by no poysonsome medicine, by any wild beast, neither yet by the sun itself." It is no wonder a "herb of vertue" like this should have been used for the purpose of incantations, as some lines of Michael Drayton's lead us to infer that it was :—

> 'There is my moly of much fame,
> In magic often used;
> Mugwort and nightshade for the same,
> But not by me abused."

The plant is tonic and stimulating, and is used in some places with hops in brewing, and is said to increase the intoxicating properties of ale. Its chief use, however, is in the down of its leaves, which in former days, when light was usually procured by flint and steel, made good tinder, and which is still employed in some countries in surgical operations. The substance called *Moxa* is made sometimes either of this down, or of that on the *Artemísia Sinénsis*, and it is in much use among surgeons in the East. It is in Japan prepared by rubbing the dried tops and leaves of this plant between the hands until the fine woody fibres are the only portion left of the leaf.

The Mugwort bears, from July to September, clusters of small yellowish flowers, sometimes tinted with a rich reddish purple colour. Its stem is often three feet high, and it generally grows in masses. It is readily eaten by cattle and sheep. This species, as well as

several others which grow on alpine heights, near to the regions of eternal snows, are included by the Swiss under the general name of Genipa. These plants are highly prized by the mountaineers for their medicinal properties, and believed to be a balm for almost every mortal ill.

Referring to our Mugwort, Lupton, in his "Notable Things," says: "It is certainly commonly affirmed, that on Midsummer Eve there is found under the roote of Mugwort a coal which keeps safe from the plague, carbuncle, lightning and the quartan ague them that bear the same about them; and Mizaldus, the writer hereof, saith that it is to be found the same day, under the roote of plantaine; which I know for a truth, for I have found them the same day, under the roote of plantaine, which is especially and chiefly to be found at noon." Several respectable authors of that period held the same notion; but Paul Barbette, writing in 1675, says, "These authors are deceived, for they are not coales, but old acid rootes, consisting of much volatile salt, and are almost always to be found under Mugwort; so that it is only a certain superstition that old dead roots ought to be pulled up on the Eve of St. John the Baptist about twelve at night."

3. *A. Absínthium* (Common Wormwood).—*Leaves* twice pinnatifid, with bluntish segments, covered with soft silky down; *heads* hemispherical, drooping; *root* perennial. This bushy plant, with its silky stems and leaves, bears its leafy panicle of dull yellow flowers from July to September. The stem is about a foot or a foot and a half high, and the whole plant is bitter and aromatic.

It grows in waste places, especially near towns and villages, and is used in various ways as a medicine by country people, though the medical practitioner generally employs the cultivated plant. The upper part of the stem and the unexpanded flowers are the useful portions of the herb. They are bitter, and contain in a great degree the usual aroma of the wormwoods; the lower part of the plant, though aromatic, possessing little of the bitter principle. The distilled water of this species, called *Eau d'Absinthe*, is used in Switzerland as a condiment to various kinds of food, and also as a liqueur. It becomes milky when water is mingled with it, and it is a common practice to drink small quantities of this liquid with tokay. The seeds of this wormwood are used by rectifiers of British spirits, and those who suffer the consequences of indulging in too luxurious a diet find its renovating and tonic powers of much service; hence a preparation of the plant known as *Crême d'Absinthe* is in great request among epicures. The plant is also occasionally steeped in wine, a practice which is thought to have been derived from the ancients, who mingled wormwood in their luscious wines, or used it before or after drinking them, in order to counteract their effect. The seeds are also employed in Scotland by the distillers of whiskey, and the flowers have been sometimes used in making malt liquors. The beverage called purl is said to be also seasoned with wormwood. Pieces of wormwood are often hung up in cottages to drive away insects; and the old lines on the subject may be praised for their useful advice, if not for their elegance:—

> "While wormwood hath seede get a handful or twaine,
> To save against March, to make them refraine;
> Where chamber is sweeped, and wormwood is throwne,
> No flea for his life dare abide to be knowne."

The Common Southernwood of the garden, which we so seldom see in flower in this country, is the *Artemisia Abrotana* of the south of Europe. Its strong odour renders it so obnoxious to insects, that country people often place it in their chests and drawers to keep away moth. Hence the French call the plant *Garde-robe;* and its medical virtues were once thought so valuable, that its specific name is derived from the Greek words signifying preservative of life. *Artemisia Dracunculus* is the *Estragon* of the French, the *Dragon* of the German, and the *Tarragon* of the English. Its young shoots form an excellent pickle, and are used to flavour fish sauces and vinegar.

We read in Scripture of the "wormwood and the gall," as types of bitterness of spirit, of anguish or remorse, but none of our British wormwoods are among the wild flowers of Palestine. Three species, however, grow there by the way-sides and in fields, as some of ours do, and the Judæan Wormwood (*A. Judáica*), which occurs in great plenty in the neighbourhood of Bethlehem, is most likely to be the plant intended by the prophet Jeremiah, when he declared that those who had forsaken the law of the Lord of Hosts, the God of Israel, should be fed with wormwood, and have water of gall to drink. The common garden Southernwood, which is a small shrub with us, grows to a large size in the Holy Land, bearing its nodding yellow flowers in

profusion; and the *Artemisia Romana* has been observed by botanists on Mount Tabor, but being neither so general nor so powerfully bitter, is less likely to be the plant which served as a figure for the Scripture writers.

On some parts of the American prairies, as on the Steppes of the Missouri, a species of Wormwood (*A. gnaphaloides*) is most abundant; all other plants are far surpassed in number by this, which is spread nearly over the whole district, and often, together with the prairie grass, covers wide tracts almost exclusively. The Hon. Robert Curzon, in his work on Armenia, describes a most singular and beautiful plant which is parasitic on Absinthe or Wormwood. No specimen of this has ever, he says, been in Europe; and by no manner of contrivance could he succeed in bringing one away. It is called in Turkish, *Yedi Kartash Kané* (Seven Brothers' Blood); in Latin, *Ravanea* or *Philipea coccinea*. "This," says Mr. Curzon, "is the most beautiful flower conceivable; it is in the form of a lily, about nine to twelve inches long, including the stalk, and all parts of it resembling crimson velvet; it has no leaves. It is found on the sides of the mountains near Erzeroom."

4. *A. marítima* (Sea Wormwood).—Upper *leaves* pinnatifid, lower ones twice pinnate, downy on both sides; *heads* racemed, oblong, in one form the racemes are drooping, in another variety they are erect; *root* perennial. Those who live near the sea or salt rivers, and are accustomed to roam over the salt marshes in the neighbourhood, well know this plant as the one which gives a grey tint to the soil. Sometimes it grows on

these places only in patches, but in some salt marshes it extends over a great part of the surface, and sends up an odour so strong and so like that of the garden Southernwood, that one cannot mistake its affinity. It is one of the plants which the botanist terms social; because never found growing singly, but always in numbers. Every one who glances around a meadow, and at the hedges that bound it, or the streams which diversify it, will see that there are plants which always grow in masses, and thus give a peculiar aspect to the vegetation. Some are pre-eminently social, like the grasses of the meadow, or the reeds which border the stream, or the thick bog moss (*Sphágnum palústre*) which forms a turfy carpet among the waters of the soft ground, or that moorland moss, the glaucous Dicranum, which in autumn grows in turfy patches on the soil. This social growth of plants generally contributes largely to the beauty of the landscape, though there are cases, as in lands covered with a vast extent of heather, where at some seasons of the year it may produce a monotonous and dreary aspect. It is, however, a circumstance of great importance to the welfare of man, enabling him the more readily to cultivate plants in masses; and the glowing fields of ripening corn in summer, as well as the emerald meads of spring giving their beauty and fertility to the landscape, attest the value of the social growth of plants.

The Sea Wormwood is rare in Scotland, but very general in marshes in England, abounding sometimes on the shores of rivers, as on those of the Medway in Kent. It has greenish flowers from July to September, on a stem about a foot high, whole masses of the plant being

of one uniform grey-green hue. A plant called Bluish Sea Wormwood (*A. cæruléscens*), which has hoary leaves, the upper ones undivided, the lower ones lobed, is described as having been found, some years since, near Boston in Lincolnshire, and at Portsmouth; but this was probably only a variety of *A. marítima*. The French call the Wormwood *L'Absinthe;* the Germans, *Wermuth;* the Dutch, *Alsem;* the Italians, *Assenzio;* the Russians, *Polin*. In Nepal, Wormwood was brought to Dr. Hooker, to form a couch for his night's repose.

28. Eupatórium (Hemp Agrimony).

1. *E. cannábinum* (Common Hemp Agrimony).—*Leaves* opposite, slightly stalked, downy, 3—5-cleft, deeply serrated, the middle segment the largest; *flowers* terminal, in corymbs; *root* perennial. This plant is very common on the borders of rivers, in moist woods, and other damp places; yet it is found, too, on some very arid soils, as on sea cliffs. It is a tall and conspicuous, but not handsome plant, the foliage being of a dull dusty-looking green, and the dense clusters of small flesh-coloured flowers are also of a dingy hue. These appear in July and August, and are succeeded by the tufts of down which surmount the seeds. The stems are three or four feet high, much branched, and the plant often grows in great numbers among reeds and sedges. It has a slightly aromatic odour, like that of resin, and it is bitter to the taste. It was formerly much used as a medicine, and an old herbalist says it was called *Eupatorium*, or *Hepatorium*, because it strengthens

the liver; but Pliny deduces its name from Eupator, the king of Pontus. It was also termed Water Hemp. An infusion of this plant is a common medicine among the turf-diggers in Holland, in some of those disorders to which their occupation renders them liable; but the plant should not be taken in any form by persons ignorant of disease, as it has very powerful properties. It makes, when infused in wine, a very aromatic medicine, which, mingled with honey, is often prescribed by French physicians for coughs. Some of the species are in other countries very extensively used as remedial agents. *Nya-pana* is the vernacular name of a kind which grows on the banks of the river Amazon, and is much used medicinally by the natives; and the Perfoliate Hemp Agrimony has long had a high reputation in pulmonary affections. A dissertation on the subject was published by an American physician some years since, by which it appeared that the medical properties of the plant reside chiefly in the foliage. Another species, called now *Mikania Guaco*, was so much praised in South America as an antidote to the bite of poisonous serpents, that it was hoped it would prove useful in cases of hydrophobia, but it does not seem to have realized the expectation.

Our common Hemp Agrimony is said to prevent and even to cure the mouldiness of bread, if laid near the loaves. The Agrimony is called in France, *L'Eupatorie;* in Germany, *Abkraut;* in Holland, *Boelkenskruid.* It is the *Eupatorie* of the Spaniards and Italians, and the Russians term it *Griwa Kouskaja.*

29. Linosýris (Goldy-locks).

1. *L. vulgáris* (Flax-leaved Goldy-locks). — *Leaves* narrow, undivided, and smooth; *scales of the involucre* loosely spreading; *root* perennial. This very rare plant, a native of limestone cliffs, is about a foot or a foot and a half high, with erect unbranched stems, bearing at their summits, from August to September, a few yellow flowers. The leaves are narrow, much like those of the flax, crowded on the stems, and, when handled, emitting a very pleasant aromatic odour. It was formerly called *Chrysócoma*, which name was taken from the Greek, and signifies gold-hair, in allusion to its tufts of yellow flowers. Several of the Continental names, like our English one, have the same meaning. The Germans call it *Das Goldhaar;* the Danes, *Guldhaar;* the Dutch term it *Proukbloem;* the Italians and Spaniards, *Crisocoma;* and the French, *Crisocome.*

30. Antennária (Everlasting).

1. *A. dioíca* (Mountain Everlasting, or Cat's-foot).— *Stamens* and *pistils* on separate plants; barren *stems* prostrate, flowering stems erect, without branches; root *leaves* oblong, gradually tapering at the base, woolly beneath, stem ones closely pressed, and very narrow; *root* perennial. One form of this plant has its leaves greenish and smooth above, when old; another has the leaves woolly on both sides. This species is found very commonly on mountainous heaths. It is a pretty little

plant, from three to six inches high, the under sides of the leaves being completely covered with cottony down. The flowers, which appear in July and August, are very pretty, their white or rose-coloured involucres being of a chaffy nature, like that of the garden Everlastings.

2. *A. margaritácea* (Pearly everlasting).—*Stems* erect, branched above, herbaceous, woolly; *leaves* slender and pointed, cottony, especially beneath; *heads of flowers* in level-topped corymbs; *stamens* and *pistils* on separate plants; *scales of the involucre* white and blunt; *root* perennial. This is a much larger species than the last, and is not truly wild, though found in moist meadows in various parts of England and Ireland, as in the neighbourhood of Bocking, in Essex. It has long been commonly cultivated in our gardens, where it is called White Everlasting, and it is a very pretty addition to the winter bouquet, long retaining much of its beauty. Gerarde calls it Cotton-weed; and speaking of an allied species, the Alpine Antennaria, says: "The flower being gathered when it is young, may be kept in such manner as it was gathered, I meane in such freshness and well-liking, by the space of a whole yeare: wherefore our English women have called it Livelong, or Live-for-ever, which name doth aptly answer his effects." Our Pearly Cudweed was also called Chafeweed in Yorkshire, because, according to Dr. Turner, it was useful to cure the chafed skin. It is slightly bitter and mucilaginous, and has been recommended as a demulcent in pectoral complaints. In Wales it is commonly selected as a flower with which to deck the grave. It is common in many

1. [illegible]
   [illegible]
2. [illegible]
   [illegible]
3. MARSH [illegible]
   [illegible]
4. [illegible]
   [illegible]
5. NARROW [illegible]
   Plago [illegible]
6. [illegible]
   [illegible]

COMMON [illegible]
[illegible]

parts of North America. Kalm says of it that it grows in astonishing quantities about Pennsylvania, upon all uncultivated fields, glades, and hills. Its height, he says, is different according to its soil and situation. Sometimes it is very much branched, and at others very little so. He adds: "It has a strong but agreeable smell. The English call it Life Everlasting; for its flowers, which consist chiefly of dry, shining, silvery leaves, do not change when dried. The English ladies were used to gather great quantities, and to pluck them with the stalks; for they put them into pots, with or without water, among other fine flowers, which they had gathered both in the gardens and the fields, and placed them as an ornament in the rooms. The English ladies are much inclined to have fine flowers all the summer long, in or upon the chimneys, sometimes on a table, or before the windows, either on account of their fine appearance, or for the sake of their sweet scent. The grass above mentioned was one of those they kept in their rooms during winter, because its flowers never altered from what they were when they stood in the ground. Mr. Bartram told me another use of this plant. A decoction of the flowers and stalks is used to bathe any pained or bruised part, or it is rubbed with the plant itself tied up in a bag."

31. Gnaphálium (Cudweed).

1. *G. luteo-álbum* (Jersey Cudweed).—*Stems* simple, branched from the base; *leaves* somewhat clasping, narrow, waved, woolly on both sides, lower ones blunt;

heads in crowded leafy corymbs; *root* annual. This species is found not only in Jersey, but, though rarely, in some places in this kingdom, as near Shelford, in Cambridgeshire. It has in July and August yellowish and conspicuous flowers, tinged with red. The stem is from three to twelve inches high, prostrate below, and woolly.

2. *G. sylváticum* (Highland Cudweed).—*Stem* simple, nearly erect, downy; *heads* axillary, in a leafy spike; *leaves* narrow, lanceolate and downy; *root* perennial. In one variety of this species the leaves are nearly smooth above, and the spikes are interrupted; in another, the leaves are lanceolate and woolly on both sides. The latter form is rare, and is found chiefly on mountains; the former is a very common plant in Scottish groves and thickets, and, notwithstanding its specific distinction, is not confined to the Highlands. It has spikes of yellow flowers from July to September, the little blossoms being almost hidden by the cottony leaves growing among them. Its height is from three inches to a foot or a foot and a half, and the scales of the involucre are oblong, with a broad brown border. The name of *Gnaphalium*, by which Dioscorides described a plant with soft white leaves that served the purpose of cotton, and which may possibly have been identical with some plant of this genus, is, like the old English names of Dwarf-cotton and Cotton-weed, by no means inappropriate. The French term the Cudweed *Gnaphale;* the Germans, *Ruhrpfluze;* the Dutch, *Droogbloeme;* the Italians and Spaniards, *Gnafalio*. The Cudweeds, as well as the plants of the genus *Antennaria*, are included

in the name of Everlasting, because of the durable nature of the chaffy scales of their flowers. Pliny says that the Cudweed was called *Chamæzelon*, signifying low-ground cotton; and that it was sometimes named *Albinum*, from the whiteness of its leaves and stalks. The cotton picked from the foliage was used by the ancients instead of wool, for filling couches and mattresses. The plant sometimes grown in our greenhouses, and called *Gnaphálium oriéntale*, is a native of Africa. Our gardeners term it Everlasting Love, and it is *Le fleur immortelle* of the French. None who have ever visited Père la Chaise can have failed to observe the wreaths sold at the entrance of the cemetery, for visitors to place on the tombs of those whom they have loved and honoured in life, or whose names are dear because associated with history, poetry, or science. Not a tomb of any note is there unadorned; and some whose names were unknown beyond the little circle of love which their virtues had drawn around them, still live in loving memories, and have the yellow wreaths lying in numbers on the spot where their remains are entombed. Many graves are almost covered with the garlands of Immortelles; and while the fadeless flower may serve as an emblem of love which is not to fade, so, too, the flowers planted on the sod of the "early lost and long deplored" may remind the thoughtful of the perishing nature of youth and beauty, while their renewed bloom may suggest the idea of the resurrection of those loved remains. Such emblems are needed in the cemetery of Père la Chaise; for while the monuments are inscribed with touching laments for the departed, there are few words traced there which point

hopefully to the hour of meeting in heaven, which make even the faintest allusion to the rising again of the perishing body. It is thought by many writers that some species of Gnaphalium were used by the ancients among the flowers with which they decked the images of their gods; and it is not unlikely that the Everlastings were also placed about the tombs, though we know that purple and white flowers were anciently believed to be most acceptable to the dead. In Spain and Portugal, these Immortelles are still used to decorate altars and images; but neither there nor in France, nor in the bouquet which often decks the English mantelpiece, are they left to their own natural beauty—the pale yellow flowers being often stained with green, black, or orange colour, and thus becoming strangely artificial in their appearance. In France many families are supported by staining these flowers, and making them up into garlands and crosses.

It is not known at what period this African Cudweed first appeared in England. Gerarde says that it was brought hither in a dried state in his day; and it appears from Parkinson, that it was well known in England about twenty years after the publication of Gerarde's celebrated Herbal. Gerarde calls it Golden Motherwoort, and says of the flowers that "they are on the top of a long stalke, joyned together in tufts of a yellow colour, glittering like golde, in forme resembling the scalie flowers of tansie." He says that "being gathered before they be ripe, they remaine beautiful a long time, as myselfe did see in the handes of Master Wade, one of the Clerkes of hir Majestie's

Counsell, which was sent him among other things from Padua, in Italie."

3. *G. uliginósum* (Marsh Cudweed).—*Stem* spreading, much branched, woolly; *leaves* narrow, lanceolate, and downy; *heads* in dense tufts, which are shorter than the leaves; *root* annual. This is a common species, inhabiting sandy places, or spots where water has stood. It is a small plant, rarely more than three or four inches high, its stem and foliage white with cottony down. In August and September the heads of flowers grow two or three together, among the crowded leaves: their scales are glossy and chaffy, and yellowish brown.

4. *G. supínum* (Dwarf Cudweed).—*Stem* prostrate branching only from the base; *flowering stems* bearing from one to five flowers; *leaves* narrow and tufted; *root* perennial. There are two varieties of this plant, in one of which the heads are stalked and rather distant; in the other they are sessile and close together. The species is abundant on Highland mountains, and is usually about two or three inches high, its flowering stems almost bare of leaves. The yellowish flowers appear in July and August.

32. Filágo (Filago).

1. *F. Gállica* (Narrow-leaved Filago).—*Stem* erect, forked; *leaves* narrow and pointed; *heads* crowded in axillary and terminal tufts, which are shorter than the leaves; *involucres* broad at the base, the outer scales cottony, with bluntish, smooth points; *root* annual. This plant, which is found, though very rarely, on sandy

and gravelly fields, has small oblong heads of flowers in leafy clusters, on a slender leafy stem about six inches high. The leaves, which narrow upwards from the base, are upright, and finally turn back. The florets are yellowish. The plant has been found at Berechurch, in Essex, at one or two places in Kent, and a few other spots of this kingdom.

2. F. *mínima* (Least Filago).—*Stem* erect, with forked branches; *leaves* narrow, lanceolate, and pointed, flat, closely pressed; *heads* conical, in lateral and terminal clusters, longer than the leaves; *scales* cottony, smooth, and slightly blunt at the point; *root* annual. This is a common species of dry and gravelly places, perhaps not truly distinct from the preceding. The yellowish heads of flowers, which appear from June to September, are very small, and the whole plant is of a greyish colour, and enveloped in cottony down. Its stem is slender, and from two to six inches high.

3. *F. Germánica* (Common Filago).—*Stem* erect, usually many-flowered at the summit; *leaves* downy; *heads* terminal, and in the axils of the branches, somewhat globose; *scales of the involucre* cottony, with smooth points; *root* annual. There are several varieties of this plant. One has the heads scarcely angled, the scales of the involucre of yellowish white, and the leaves oblong or lanceolate. Another has the heads larger, five-angled, the scales purplish towards the tip, the leaves lanceolate, tipped with a spine, grass-green but with a yellowish down: this is called by some writers *F. apiculata*. Another form, with the heads prominently five-angled, scales yellowish white, leaves of a leaden grey colour, and

tapering at the base, is by some botanists termed *F. spathulata.* The Common Filago is a very frequent and singular little plant, having at the top of its cottony stem a globular assemblage of heads, from the base of which arise two or more flower-stalks, which are prolific in the same manner. The old herbalists on this account called this the wicked or impious herb (*Herba impia*), as if the young shoots were undutiful to the parent stem by exalting themselves above it. The plant is about six or eight inches high, and flowers in June and July. It grows on heaths and dry gravelly places, and in some of its forms has a faint odour, resembling that of Tansy.

33. Petasites (Butter-bur).

1. *P. vulgaris* (Common Butter-bur).—*Leaves* roundish, heart-shaped at the base, unequally toothed, downy beneath; *root* perennial. In tracing the course of some of those streamlets which sparkle among the bright grass of the summer meadow, or in selecting some quiet little nook of beauty by the river side, which would serve well for the painter, how often have we paused by some spot enriched by the snowy blossoms of the Meadow Sweet, and the purple flowers of the Willow Herb, where large masses of the leaves of the Butter-bur lying on the water's bank made an admirable foreground to the picture! The young duckling from the pool was perchance sheltering itself beneath the broad canopy which served as a screen from sun or passing shower. Even the willow wren, whose wings, one would imagine, might

waft it far enough into the very heart of a wood, sought at such moments the ready shelter of this large broad leaf. As an old herbalist once said of it, the leaf is large enough to form the cover for a small table; and we have seen these green leaves standing on thick stalks a foot long, and very nearly three feet broad. But though the artist would look on their masses with delighted eyes, yet the owner of the pasture land would by no means respond to his pleasure. This plant is the most troublesome of all our water weeds, its long root creeping far into the soil. It so multiplies the plant in wet meadows, that Mr. Curtis says, a piece of this root, only two inches long, and the thickness of his little finger, was dug up, after being planted eighteen months, when it appeared that many shoots had extended to the length of six feet, and penetrated two feet in depth, while the whole mass of root weighed eight pounds. The root, which is white with a thick black skin, abounds in a resinous matter, and has a strong resinous odour, and a bitter and acrid flavour. It was formerly used as a medicine in fevers, and was believed to be so efficacious in the cure of the plague, that one of the old names of the plant was Pestilence-wort. "It is under the dominion of the sun," says an old writer, "and, therefore, a great strengthener of the heart and cheerer of the vital spirits." He adds: "It were well if gentlewomen would keepe this roote preserved, to help their poore neighbours. It is fit the rich should help the poore, for the poore cannot help themselves." The art of preparing and preserving medicinal herbs seems to have been a common accomplishment of the ladies of the olden times, and it is

pleasant to think of our female ancestors as employed in making the old unguents and decoctions derived from plants, and dispensing them among the sufferers; for we know well that these acts would tend to promote kindly and charitable feeling, and that the gift of the medicine would in all probability be accompanied by some word of sympathy, which might heal the wounded spirit, as surely as the herbal medicament should help the bodily ailment.

The stamens and pistils of the Butter-bur usually occur in the flowers of separate plants, and the plant bearing the fertile flowers is generally smaller, and has a less dense spike of blossoms, than the stout sturdy barren flower. The corollas are of pale flesh colour; and they expand during April and May, before the leaves, which begin to unfold just as the feathery down of the seeds is clustering on the flower-stalk, or shortly after that has been wafted away by winds. The stalk has, at the time of flowering, swelling leaf-stalks, which are either leafless or have a small leaf-like piece. The Swedes place this plant near their beehives, because of its early flowering; but it has the disadvantage of overpowering all herbaceous plants near it. The species so frequent in our gardens and shrubberies, and often called Spring Coltsfoots, are the *Petasites álba* and *P. frágrans* of the botanist. Their chocolate blooms quite scent the vernal air; but the plant has the same tendency as the wild species to extend by its creeping roots over a large space of ground. The odour, which is so delicious in the open air, is too powerful for a room; and the masses of leaves have a good appear-

ance in the shrubbery, but so cover the ground as to exclude all lesser plants.

1. Radiatæ (The Daisy Group).

34. Tussilágo (Coltsfoot).

1. *T. Fárfara* (Coltsfoot).—*Stalk* single-flowered, with scales crowded upon it; *leaves* angular, heart-shaped, toothed, white and cottony beneath; *root* perennial. This flower, which is one of the earliest blossoms of spring, is somewhat like the dandelion in form and colour, but much smaller, and standing up alone on the soil, without the leaf to serve as contrast to its bright gold. Bishop Mant has well described it:—

> "O'er scaly stem, with cottony down
> O'erlaid, its lemon-colour'd crown
> Which droop'd unclosed, but now erect,
> The Coltsfoot bright develops, deck'd,
> Ere yet the impurpled stalk displays
> Its dark-green leaves, with countless rays
> Round countless tubes alike in dye
> Expanded: but, howe'er the eye
> Its tint may prize, no fragrant smells
> It nourishes in nectar'd cells."

The flowers of the Coltsfoot expand on moist, clayey, and limestone soils, too abundantly, in March and April, and during the latter month the large angular-edged leaves of pale green, with white under surfaces, are just unfolding to view, and lie in masses in the later seasons by field or road-side. The Coltsfoot is the first plant which vegetates on marl or limestone rubble; and the

banks by many of our railway cuttings are often covered with the flowers long before other plants have found time to flourish there. The clayey soil of the pestilential Maremmas of Tuscany, where scarcely any other herb is to be seen, is sometimes decked for a vast extent with this. It is a most noxious weed on some of our native spots, for every part of the root will produce a plant. Even if a small piece remain buried three or four feet deep, it will soon vegetate, send up a stem to the surface, and spread with singular rapidity. It ought never, on valuable land, to be allowed to produce flowers or expand leaves; and the best mode of extirpating it is to cut off the crown of the root in March.

The flowering stem of the Coltsfoot is about five or six inches high, rising directly from the root, and the scale-like bracts with which it is clothed are often of a purplish hue, as are the drooping unexpanded flower-buds. The plant has its name from *tussis*, a cough; and we trace this origin in several of its continental names. Thus the Italians call it *Tossalaggine;* the French, *Tussilage;* the Spaniards, *Tusilago*. The Germans term it *Huflattich*, and the Dutch, *Hoefblad*. The plant has, for many centuries, been used medicinally in pulmonary disease; it is bitter and demulcent, and a decoction is still often used to soothe irritation in the air passages; while until within the last few years, the Coltsfoot lozenges were commonly sold for coughs. The plant has also, even from the days of Dioscorides, been smoked through a reed, to relieve pain; and the leaves are said to form the basis of the British herb-tobacco.

The cottony down has been sometimes used for filling cushions and pillows; and, saturated with saltpetre, formerly served as tinder. The Coltsfoot, though still retaining a place in the Materia Medica, is now little used.

35. Erígeron (Flea-bane).

1. *E. Canadénsis* (Canada Flea-bane).—*Stem* much branched, hairy, many-flowered; *leaves* narrow, lanceolate, fringed with hairs; *ray of flower* shorter than the involucre; *root* annual. This is not a common plant, though found on heaths and on gravelly or chalky waste places in several parts of the kingdom. It is not unfrequent on dry chalky banks in the neighbourhood of Dover. It is, however, a naturalized, and not an indigenous plant, having been first introduced from Canada into gardens near Paris, whence its downy seeds soon found their way all over France, and afterwards to Sicily, Italy, Belgium, Germany, and England. It is a dull-looking plant, with small heads of dingy flowers in July and August; the florets of the disk being of a yellowish, and those of the ray of a whitish hue, more or less tinged with red. The stem is one or two feet high, much branched, and panicled with numerous flowers. The Flea-bane has the repute of driving away insects; but the name refers to some exotic species, which by their strong odour annoy, or by their viscid stems and foliage entangle, the insects approaching them. A very powerfully fetid species, *E. Philadelphicum*, is a medicine of some importance in America. Our wild Flea-banes are of little use, but the ashes, both of this and the

following species, yield five or six per cent. of vegetable alkali; and the latter plant has some active principles. The French call the Flea-bane *La Vergerette*, and the Germans, *Das Scharfe*. It is in Holland called *Scherp fynstraal*, and in Spain, *Olivardilla*.

2. *E. ácris* (Blue Flea-bane).—*Stem* corymbose, branches alternate; *leaves* narrow, lanceolate, entire, spreading, lower ones tapering below; *ray* erect, scarcely longer than the disk; *inner pistillate florets* thread-like and numerous; *root* biennial. This is a local plant, found on heaths and chalky or gravelly waste places. The author found it some years since on the heathy land lying about the village of Higham in Kent. It produces its small flowers in July and August, the florets of the disk being yellowish, and the rays of dull bluish lilac. The stem is about a foot or a foot and a half high, and the whole plant very rough to the touch. The down which invests the seeds after the plant has flowered, is of a dull brownish-yellow colour.

3. *E. alpínus* (Alpine Flea-bane).—*Stem* mostly single-flowered; *leaves* lanceolate, lower ones tapering at the base; *ray* spreading, twice as long as the disk; *root* perennial. This is a plant of the Highland mountains, having a stem from three to five inches in height, the flower with a yellow disk and light purple ray, and the involucre hairy.

36. Àster (Starwort, Michaelmas Daisy).

1. *A. Tripólium* (Sea Starwort).—*Stem* smooth, corymbose; *leaves* narrow, lanceolate, fleshy, smooth; *scales of the involucre* lanceolate, blunt, membranous, over-

lapping each other; *root* perennial. During the months of July, August, and September, the Michaelmas Daisy is a common ornament of the dreary salt-marsh adjoining sea or river. Far as eye can see that flat greensward is stretched, little varied either in hue or form by the plants growing upon it. At this season, these lilac flowers, with their golden centres, are very conspicuous, standing up on a hollow, erect, leafy, succulent, pale-green stem, one or two feet high. The plant is essentially one of a saline soil, growing sometimes on sea-cliffs, and often on the muddy shore either of the sea or of rivers. It has been found on the banks of the Thames, a little above high water, near Richmond and Kew; and the author once found it on a bank on Strood Hill, in Kent, at a distance of more than a mile from the salt river Medway; but it is not often found so far inland. Dr. Withering says that the succulent leaves and stems of the plant are not unfrequently gathered and sold for samphire; but the glassworts (*Salicorniæ*) are more often substituted for that plant than are any other sea-side productions. Animals, though usually so fond of the plants of saline soils, dislike the Aster, and neither the cow nor sheep will touch it. Country people call it Blue Daisy, Blue Chamomile, and Michaelmas Daisy; and it is very nearly allied to the lilac and purple flowered plants known under the latter name, which lend their thousands of starry blooms to deck the autumnal flower-garden. The Michaelmas-daisy genus is peculiarly a North American one, the woods and fields of that country producing a great variety of these plants. The Michaelmas Daisy (*Aster Tradescántia*) was brought

into our gardens in 1633, by John Tradescant, who with his father visited America to procure new flowers for English Gardens. The elder of the Tradescants was gardener to King Charles I., and collected one of the finest museums of natural history ever known in this country. The flowers commemorate the name of these useful botanists; and a large number of allied species have been introduced since that period.

Sir Charles Lyell, when travelling in America, along the road to the White Mountains, each side of which had an abundant growth of Sweet Fern, and of the Woolly Dropwort, with its spike of purplish flowers, says: "The name of Hard-back was given to this latter plant because the stalks turned the edge of the mowers' scythes. There were Gold Rods, Everlastings, and Asters in profusion; one of the Asters being called Frost-blow, because flowering after the first frost." He adds: "By the side of these indigenous plants grew the English Self-heal, the Mullein, and other flowers, reminding me of a remark of an American botanist, that New England has become the garden of European weeds."

The French call the Aster, *L'Astére;* the Germans, *Sternblume;* the Dutch, *Sterribloem;* the Danes, *Stiernblomst;* the Italians and Spaniards, *Aster*. The favourite garden flowers known as China Asters, belong to another genus, *Callistemma*. The *Aster acris* of the South of Europe, which is sometimes found in our gardens, has powerfully acrid properties, and when bruised, the whole plant has the odour of a carrot.

37. Solidágo (Golden Rod).

1. *S. Virgaúrea* (Common Golden Rod).—*Stem* erect, slightly angular; *leaves* lanceolate, narrowed at both ends, lower ones oval, stalked and serrated; *scales of the involucre* lanceolate and acute; *root* perennial. A variety of this plant, sometimes termed *S. cámbrica*, is small, and has broader leaves. During the autumnal months, this flower is the favourite resort of the bees. How on a fine October day these insects will hum and hover about its mass of golden flowers, which enliven chalky bank or sea-cliff, or linger in woods or in thickets by the lane! The brightness of the blossom is relieved by the green leaves growing among the cluster; which is, however, far less dense in the wood or hedge than on sunny open places. It grows best on the poorest soils, and is abundant on mountainous places, blossoming from July till October. This Golden Rod has had its praises in former years. It was called Wound-weed, and from its healing powers received its scientific name, *Solidago: Solido* or *in solidum ago vulnera*, "I consolidate wounds." "It is," says an old herbalist, "a soveraigne wound-herb, inferior to none, both for inward and outward hurts." It was, during the sixteenth century, procured at great expense from abroad, for medicinal purposes, though it is no longer in use either in this or in continental countries. It doubtless possesses some astringent properties, but these seem to be greater in the *S. odóra* of North America, the foliage of which is deliciously fragrant, combining the odours of the anise and sassafras. When this plant is subjected to distillation, a volatile

oil, having the taste and aroma of the plant in a high degree, collects in the receiver; the oil apparently exists in the little dots or glands of the leaves. The effects of the oil are aromatic, pleasant to the taste, and carminative. Gerarde says of our native Golden Rod: "It is extolled above all the herbes for the stopping of blood, and hath in times past been had in greater estimation and regard than in these daies: for within my remembrance I have known the drie herbe which came from beyond the seas, sold, in Bucklersburie in London, for half-a-crown an ounce. But since it was found in Hampsteed Woods, even as it were at our towne's end, no man will give half-a-crowne for an hundred weight of it; which plainly setteth forth our inconstancie and sudden mutabilitie, esteeming no longer of anything, how precious soever it be, the whilst it is not strange and rare."

Though we have but one British species, yet a large number of Golden Rods are cultivated in our gardens and shrubberies, either under this name or that of Aaron's Rod. They are, with few exceptions, brought from the woods and fields of North America, where this genus abounds. In some European regions, however, our native Golden Rod is very abundant, as in the most southern parts of the Highlands of Norway, where this and the *Molinia cærulea* are the predominating plants of vast tracts of country, and seem almost to displace all others. The European names of our native plant generally allude to its golden blooms: thus the French term it *Verge d'or;* the Germans, *Goldruthe;* the Dutch, *Goudroede;* the Italians, *Verga d'oro;* and

the Spaniards, *Vara de oro.* In Russia it is called *Solotoschnik.*

* *Florets of the ray rolled back or wanting.*

38. Senécio (Groundsel, Ragwort, Fleawort).

1. *S. vulgáris* (Common Groundsel).—*Flowers* without rays, in crowded clusters; *leaves* half clasping the stem, deeply pinnatifid, and toothed; *involucre* conical, smooth; *root* annual. Those even who are little familiar with wild flowers, are acquainted with this, for it grows as a weed in every garden, sending its feathered tufts to bear away its seeds far around the spots where it grows. The little singing bird, not alone of gilded cage, but of bush or tree, welcomes it as a refreshing food; and owing to its numerous seeds, it is everywhere abundant. It has been often used for emollient poultices, but its virtues are very questionable. If hot water is poured upon the green leaves it certainly, however, renders the liquid soft and fitted for soothing the skin irritated by winter's cold. The Highland women often wear a piece of its root as an amulet, regarding it as a protection from the "evil eye." The French call the plant *Seneçon;* the Germans, *Kreupflanze;* the Dutch, *Kruikskruid;* the Spanish, *Hierba cana;* the Italians, *Senecione;* the Russians, *Krestownik.*

2. *S. viscósus* (Stinking Groundsel).—*Ray* rolled back; *leaves* pinnatifid, clammy, and hairy; *scales of the involucre* loose, hairy; *stem* branching, spreading; *root* annual. This is a somewhat local plant, occurring on chalky or gravelly soils, and bearing dull yellow flowers

1. [illegible] RAGWORT.
   Senecio squalidus.
2. [illegible] R.
   S. tenuiflorus.
3. COMMON R.
   S. Jacobæa.
4. MA[illegible] R.
   S. aquaticus
5. GIGANTEAN R.
   S. paludosus.
6. BROAD-[illegible]AVED GROUNDSEL.
   S. sarracenicus

in July and August. Its stem is about one or two feet high, and the species is remarkable for its clammy hairs, and most disagreeable odour.

3. *S. sylváticus* (Mountain Groundsel).—*Ray* rolled back, sometimes absent; *leaves* sessile, pinnatifid, lobed and toothed, often eared at the base; *involucre* downy, smooth; *stem* erect, straight; *root* annual. This is a common plant on gravelly places, rendered very distinct from the last by its larger size, as well as by the paler colour of the leaves, which are often quite hoary. It bears conical heads of dull yellow flowers, on a stem one or two feet high, from July to September.

* * *Heads with a spreading ray; leaves pinnatifid.*

4. *S. squálidus* (Inelegant Ragwort).—*Ray* spreading; *flowers* large; *leaves* smooth, pinnatifid, with distant oblong and toothed segments; *involucre* smooth, its outer scales few and small; *fruit* silky; *root* annual. This is a very handsome plant, found on walls and rubbish at Biddeford, Devon, and on walls in and about Oxford. It is a very marked species, but is probably not truly wild. The much-branched stem is leafy and smooth, the heads of flowers large, of golden yellow, and few in number, expanding from June to November, and having many scattered awl-shaped bracts just below them.

5. *S. tenuifólius* (Hoary Ragwort).—*Ray* spreading; *leaves* closely pinnatifid, pale and downy beneath; *stem* erect, cottony; *fruit* hairy; *root* perennial. This plant grows, though by no means frequently, on chalky soils

in hedges, and by road-sides. It sends up numerous stems from the same root, all covered with loose cottony down; its leaves are very regularly divided, the margins slightly rolled back. The stem is about two feet high, and angular. The yellow flowers appear in July and August, and the root creeps far into the soil.

6. *S. Jacobæa* (Common Ragwort).—*Ray* spreading; *leaves* lyre-shaped, twice-pinnatifid; *segments* smooth, toothed; *stem* erect; *fruit* of the disk hairy, those of the ray smooth; *involucre* hemispherical; *root* perennial. Every one knows the tall plant with its clusters of handsome golden flowers, which, from July to October, gleam on waste places or meadows. The blossoms have both disk and ray of a deep yellow colour; each one in the cluster being larger than a daisy, and the whole standing on a stem two or three feet high, they form a striking feature on the autumnal landscape. Notwithstanding its luxuriant beauty, it is a great annoyance to the owner of the pasture land, for it grows on all soils, and is even more abundant in some other countries than in ours. In Kamtschatka it is everywhere one of the most common plants. It has a fleshy root, of a disagreeable odour; and the whole plant has, especially if bruised, an unpleasant scent. Hence, in Scotland, it is commonly known by the name of Stinking Willie. Its stem is marked with slight ridges, and a variety of the plant occurs in which the flowers are without rays.

7. *S. aquáticus* (Marsh Ragwort).—*Ray* spreading; *leaves* lyre-shaped, serrated, smooth, the lowest undivided and inversely egg-shaped; *involucre* hemispherical; *fruit* smooth; *root* perennial. This species is very much like the

Common Ragwort, but is plainly distinguished by its less divided leaves. The yellow flowers occur, from July to September, on wet places, and by the margins of rivers; they are larger than those of the last species.

* * * *Heads with a spreading ray; leaves undivided, or nearly so.*

8. *S. paludósus* (Great Fen Ragwort).—*Leaves* sessile, somewhat clasping, lanceolate, sharply serrate, cottony beneath; *stem* straight, hollow, rather woolly; *corymbs* terminal; *bracts* awl-shaped; *root* perennial. This is a rare plant of fen ditches. Its stem is from four to six feet high, and both flowers and foliage large. Its yellow blossoms expand in June and July, having narrow rays from thirteen to sixteen in number. It is found chiefly at the East of England.

9. *S. Saracénicus* (Broad-leaved Ragwort).—*Leaves* sessile, lanceolate, acute, smooth, irregularly serrate with small teeth; *stem* straight, solid; *corymbs* terminal; *root* perennial. The yellow flowers of this species are much smaller than those of the last, but the florets of the ray are far broader, and are about six or seven in number; these are sometimes wanting. The stem is from three to five feet high, and the leaves broad. It is doubtful if this plant is truly wild, and it is likely to be an outcast of gardens. It is found on some moist meadows, both of England and Scotland, flowering in June and July, but is very local. This plant was esteemed by the Saracens as a vulnerary, hence its specific name; and it was also termed Saracens' Consound, Saracens' Comfrey, *Herba fortis*, and by the Dutch, *Wundkraut*.

It was probably introduced by the Crusaders, and cultivated in the monastery gardens, as most of the places in which it is found are near old monastic institutions. It is not often seen in modern gardens, though some handsome species of the genus are cultivated. The double-flowered variety of *S. élegans* is a greenhouse favourite; and a number of the groundsel family, especially those having rays of various purple hues, are common border flowers. The groundsels are found in some species or other in every part of the world. Humboldt remarks, that they are very numerous in the upper regions of the Andes, "just below the limits of eternal snow, where the sun has little power, where hurricanes are incessant, and where not a tree is able to rear its head." Gerarde said of the Broad-leaved Ragwort, "It is not inferior to any of the wound-herbes whatsoever, being inwardly ministered, or outwardly applied in oyntments or oyles." He also relates how he cured by its use a gentleman who was "grievously wounded in the lungs, and that, by God's permission, in a short space."

10. *S. palústris* (Marsh Fleawort).—Shaggy; *stem* much branched and corymbose above; *leaves* broadly half-clasping, lower leaves deeply toothed; *fruit* smooth; *root* perennial. This plant has, in June and July, erect heads of bright yellow florets, about twenty forming the ray. Its stem is three or four feet high, thick, hollow, and leafy. It is a rare plant of fen ditches, chiefly of Norfolk and Cambridgeshire.

11. *S. campéstris* (Field Fleawort).—Woolly; *stem* simple; *root-leaves* elliptical, narrowed below, nearly

entire, those of the stem small, lanceolate; *flowers* in umbels. This plant bears its yellow flowers in May and June. It grows on chalky downs in the middle and south of England, and on some rocks of the sea-shore. The heads of flowers are erect, from one to six in the cluster; its flowers are often, when near the sea, much larger than on inland specimens.

39. Dorónicum (Leopard's-bane).

1. *D. Pardaliánches* (Great Leopard's-bane).—*Leaves* hairy, heart-shaped, toothed, lower ones on long stalks, intermediate, with two broad ears at the base, uppermost clasping the stem; *fruit* of the disk hairy, of the ray smooth; *root* perennial. This very rare plant is found on damp and hilly pastures among the mountains of Northumberland, at Calton, by Norwich; and it has been found by Mr. Carter in Lord Fitzwilliam's woods, near Peterborough. It occurs in some other places of England, as well as in several of Scotland. It bears its yellow flowers from May to July, those blooming latest overtopping the earlier ones. The stem is two or three feet in height, erect, hollow, hairy, and solitary. The root is tuberous and creeping, and is, as well as that of *D. plantagineum*, believed to possess an acrid poison. This species is said to take its name from the Greek *pardalio*, a leopard, and *agcho*, to strangle, on account of the use made of the plant in destroying wild animals. The French call the plant *Doronie;* the Germans, *Gemsenwurz;* the Dutch, *Wolverley;* the Italians, Spaniards, and Portuguese term it *Doronies*. The plant has

acquired a painful interest, for it is said that Conrad Gesner, who, in his zeal for science, made so many experiments on his own person of the properties of plants, shortened his existence by the use of this acrid herb. In the "Historia Plantarum," believed to be written by Boerhaave, it is related, that Gesner took some of this plant in the morning fasting, and wrote, two hours afterwards, a letter to a friend, in which he stated himself to be then in good health. Other friends of the naturalist assert that he had not despatched this letter more than an hour before he was taken ill and expired. This excellent botanist has been called the German Pliny; and Boerhaave termed him that "*Monstrum eruditionis.*" Matthiolus, who long advocated the medicinal use of the Leopard's-bane, relinquished his opinions on finding that it killed a dog to which he gave a dose; but many modern botanists doubt if the root is so highly poisonous as it has been represented. The question of its dangerous properties is a very old one. Gerarde says: "But for the proofe of the goodnesse of Doronicum, and the reste of his kinde, knowe also that Lobel writeth of one called John de Vroede, who ate very manie of the rootes at sundrie times, and found them very pleasant in taste, and very comfortable; and thus," he says, '' I leave all controversies."

The Leopard's-bane is very frequent on the mountainous parts of Switzerland, the Alps, Hungary, Germany, and other parts of Europe, but in this country it is rather a naturalized than a wild plant. Mr. Lightfoot observes, that in the few places of Scotland in which he saw it, it always grew near houses. It is quite likely

to have escaped from cultivation, for as it looks well both in gardens and shrubberies, it is often placed there, and propagates itself very extensively by its spreading roots. It is an old inhabitant of the English garden. Turner, one of our earliest writers on plants, observes of it in 1568—"*Doronicum*, otherwise called *Carnabadium*, groweth not, that I knowe of, in England; and that I remember I never saw it growing but once, and that was in Germanye." He adds, that the roots are well known in the apothecaries' shops, and says, "The Arabian commendeth this herbe very much agaynst diseases of the herte, and holdes that it is goode agaynst poyson and venome." Gerarde, who had the Leopard's-bane in his garden, tells us that it grows wild in the mountains, and also that it is "brought into, and acquainted with, our English gardens."

2. *D. plantagíneum* (Plantain-leaved Leopard's-bane). —*Leaves* toothed, those from the root or naked stalks egg-shaped, or somewhat heart-shaped; *stem-leaves* sessile, clasping, the lowermost with a winged and eared stalk; *root* perennial. This is also a rare species, found at one or two places in Essex, in the Den of Dupplin, and a few other damp places in England and Scotland. The stem is either simple or branched, two or three feet high; the yellow heads of flowers on long leafless stalks, usually solitary, or if more, the side ones do not, as in the other species, overtop the terminal ones. It flowers in June and July.

40. Inula (Elecampane, &c.)

1. *I. Helénium* (Elecampane).—*Leaves* clasping, unequally toothed, wrinkled, downy beneath; *outer scales of the involucre* egg-shaped, downy, leafy, turning backwards; *ray* twice as long as the disk; *fruit* quadrangular, smooth; *root* perennial. This very handsome but rare plant is found occasionally in moist pastures in England and Ireland, but is not wild in Scotland. It has a stout stem, from three to five feet high, with large leaves and bright yellow flowers of the size of small sunflowers. The leaves are bitter and aromatic, and the roots much more so. These contain a white, starch-like powder, termed Inuline, a volatile oil, a soft acrid resin, and a bitter extract, and they furnish the celebrated *Vin d'Aulnée* of the French, so largely used in pectoral complaints. This same inuline has, of late years, been found to exist in the tubers of several plants, as in those of the Jerusalem Artichoke, the Common Pellitory of the wall, and the Angelica. The root, when dried, becomes in the course of time stronger and sweeter, and has much of the scent and flavour of orris-root. At first taste it is glutinous, but somewhat strong and disagreeable, but it leaves an aromatic and bitter pungent flavour on the tongue. There is no doubt that it is a good pectoral medicine, and it is certainly a useful remedy for the diseases of sheep. The Romans used the roots as an edible vegetable; and that the monks prized them highly, is evident from their old line,

"Enula campana will restore health to the heart;"

Enula campana being its name among the medical writers of those days. It is little used in England, except that it is sometimes employed by druggists to adulterate ipecacuanha; but it is made into a cordial sweetmeat, which is eaten by people of the East, and considered to have sanatory properties. Elecampane lozenges were, a few years since, sold by druggists in England; and, on the Continent, various preparations of its juices form several favourite carminatives. The leaves too, bruised and steeped in wine, and mingled with whortleberries, produce a rich blue dye. The plant grows wild in several countries of Europe, and is cultivated in others for flavouring confectionery. The French call it *Inule d'Aulnée;* the Germans, *Alaut;* the Dutch, *Gewoon alaut;* the Italians, *Enula;* and the Russians, *Dewjatschik.* Its name of *Helenium* refers to the celebrated Helen, who is said to have had her hands full of these flowers when Paris carried her off. It was once very common in Sweden, but is now less frequent. Dr. A. Griesbach, of Gottingen, remarks: "Many plants have been extirpated by use: this is now gradually taking place with *Gentiána lutea,* in the Alps, and *Inula Helenium,* in the north of Sweden. The contact of man with nature exerts no less a modifying influence on the vegetable kingdom than upon the animal creation. The original vegetation of a country must in general, therefore, be regarded as more rich in species; and in this manner, in Sweden and Germany, even under our own eyes, the localities of rare plants are disappearing one after the other."

2. *I. Conýza* (Ploughman's Spikenard).—*Leaves* egg-

shaped, somewhat lanceolate, serrated, downy, the upper ones entire, lower ones narrowed into a footstalk; *stem* herbaceous, corymbose; *scales of the involucre* all narrow, and turning backwards, leafy; *ray* scarcely longer than the disk; *fruit* round, slightly hairy; *root* biennial. This plant, though rarely if ever truly wild in Scotland, is very common on waste places of the English landscape, from the chalky or clayey hedge-bank to the heights of the sea-cliff. It is a large and not a handsome plant, its heads of flowers having a few small florets, those of the ray being something between tubular and strap-shaped, and all dull yellow. The foliage, too, is of a sombre green, and the leaf-like scales of the involucre are frequently of a reddish-brown hue. The stem is about two or three feet high, and the panicles of flowers have leaves growing among them. They appear from July to October. The plant has a slightly aromatic odour—"the ploughman's spikenard's spicy smell"—but this is not very perceptible till it is gathered. It possesses, however, a valuable oil, which is used as a sudorific, and which is said to destroy insects; hence the plant is sometimes called Fly-bane, and by the French, *Herbe aux puces*. It was once much valued in the cure of disease, both here and in France. The French call it also *Conise;* the Germans term it *Durrwurz;* the Dutch, *Tonderkruid;* and the Spaniards and Italians, *Conizza*. Gerarde says that the "learned herbarists" of Montpellier called it *Baccharis*, believing it to be the plant alluded to by Virgil by that name An American purple-flowered species emits a strong odour of camphor; and other plants of the genus yield fragrant gums, which

might be useful both in medicine and the arts, and several of which have been found to be of great medical use.

3. *I. crithmoides* (Golden Samphire).—*Leaves* linear, fleshy, usually three-toothed at the extremity; *scales of the involucre* closely pressed, narrow, and pointed; *ray* nearly twice the length of the disk; *fruit* hairy; *root* perennial. This is a rare species, found on cliffs and salt marshes, easily distinguished from any other native plant by its fleshy leaves and yellow flowers which expand in July and August. The stem is about a foot high, a little branched at the summit, with a single flower on each branch. In cases where this plant occurs, it is often used as a pickle; and the young shoots are sometimes even sent to the London markets, and sold as the veritable samphire, to which, however, it is very inferior, though in its young state bearing some resemblance to it.

41. Pulicária (Flea-bane).

1. *P. dysentérica* (Common Flea-bane).—*Leaves* oblong, heart-shaped or arrow-shaped, and clasping at the base, and, as well as the stem, downy; *scales of the involucre* bristly; *ray* twice as long as the disk; *fruit* angular; *outer pappus* waved and cup-like; *root* perennial. Few of the streams of England which are gay during summer with bright flowers, are destitute of the golden marigold-like blossoms of this plant. On the moist margins of brooks and rivers, and on wet bogs, it is plentiful from July to September, growing often in large

masses: but in Scotland it is a rare flower, nor is it general in Ireland. The stem is one or two feet high, and is conspicuous among the emerald grasses by the contrast of its wrinkled foliage, which is of a dull whitish uniform green colour, and which, when bruised, is said to have the odour of smoke, though to us it seems to have that of soap. Its juice is saline, bitter, and astringent. It was celebrated by Linnæus as having proved a valuable medicine in the Russian army, and is used occasionally in this country as a tonic. Haller, however, speaks contemptuously of the medical properties of the plant, because, as he says, it abounds in earthy matter. Our old writers, who called it Middle Flea-bane, believed that if burnt in any place frequented by insects, these intruders would certainly be expelled; and Forskhal says that the Arabs called it *Rara ejub*, or Job's Tears, from the belief that Job used this plant to cure him of his painful maladies, during the season of his affliction. Few, if any, animals will eat the herb. Mr. Baxter mentions that Saussure kept a plant of this species for six months in the vacuum of an air-pump, without any apparent effect. It was then placed in the light, but in such a manner as not to receive the sun's direct rays, as it withered if even a small degree of sunshine reached it. It also grew equally well in an atmosphere of nitrogen gas and in an atmosphere of common air, though the former entirely destroys life in most plants. The juice of this Flea-bane turns green with vitriol of iron.

2. *P. vulgáris* (Small Flea-bane).—*Leaves* lanceolate, wavy, hairy, narrow at the base, and half clasping the

stem; *stem* hairy, much branched; *ray* scarcely longer than the disk; *fruit* angular; *root* annual. This plant is found occasionally in England, but not in Scotland or Ireland. Its stem is leafy, from six to twelve inches high, and the small heads of yellow florets expand in July and August. It grows on moist sandy heaths, or on places where water has once stood

42. Bellis (Daisy):

1. *B. perennis* (Common Daisy).—*Stalk* single-flowered; *leaves* inversely egg-shaped, narrowing at the base, the margin having rounded notches; *root* perennial. Who does not love the Daisy, the little red-tipped Daisy, so like Hope and Faith in its constant up-looking; so cheerful in aspect, that, as the poet has said, "it smiles even in times unkind?" To our latest days the Daisy will have a charm, while it can remind us that it was the first flower which we gathered in unlimited abundance; the flower which in childhood we linked into wreaths, when we "prinked our hair with daisies"—the flower on whose clustering numbers we were wont to tread, and shout, "Spring is come, for we can set our foot on nine daisies." Poets have sung its praises from oldest times, from Chaucer who called it the "eye of day," and Ben Jonson who wrote of "sweet daie's eyes," down to the latest poets of our own period; for its beauty and early memories have ever appealed to the heart and the imagination. The love which Chaucer entertains for the flower is shared by us yet, for the "delight in little things" has been

given as a blessing to thousands of hearts by Him from whom cometh every good gift; and though the mere worldly man may smile at the simple lover of flowers, yet those who have loved them best well know that this very love has come in moments of sorrow to soothe—has served as a recreation to minds which were wearied with earnest toil—has helped to waken thoughts of God as the Friend of the friendless—has whispered truths of heavenly consolation—has raised the heart to prayer. God has not scattered the daisies over green meadow or sunny hill, by our wayside or on the graves of our loved ones, that we should pass them unheeded, or crush them beneath our footstep without a thought of their grace. We have but to look into that star of gold and silver, to see what His hands have wrought. That star is full of flowers, each perfect in itself, each so wondrously constructed, that he who has never looked at them through a microscope has not yet learned half their wondrous beauty, though even by a glance he may have learned to say with Chaucer—

"That above all flouris in the mede,
Then love I most these flouris white and rede,
Soche that men callin daisies in our towne:
To them I have so great affectioun,
As I sayd erst, when comin is the Maie,
That in my bed there dawith me no daie,
That I n' am up, and walking in the mede,
To see this floure against the sunne sprede,
Whan it upriseth early by the morrow,
That blissful sight softeneth my sorrow,
So glad am I, when that I have presence
Of it, to doune it all reverence;

As she that is of all floures the floure,
Fulfilled of all vertue and honoure;
And evir like faire and fresh of hewe,
As wel in winter as in summer newe:
This love I evir, and shall until I die,
All sweare I not, of this I woll not lie,
There loved no wight nothen in this life,
And whanne that it is eve, I renne blithe,
As soone as ever the sunne ginneth west,
To seene this floure, how it will go to rest,
For fear of night, so hateth she darknesse,
Her chere is plainly spred in the brightnesse
Of the sunne, for there it will unclose."

He says elsewhere—

"That well by reason men callé it maie
The daisie, or els the eie of the daie."

We might quote Spenser, who, in the "Faerie Queene," speaks of

"The little dazy that at evening closes;"

or Shakspeare, who tells of "daisies pied;" or the well-known and beautiful poems on the Daisy, by Wordsworth; or Burns, who wrote on the "wee, modest, crimson-tipped flower," crushed by the plough; or Montgomery, who has some sweet verses on the

"Little flower,
With silver crest and golden eye,
That welcomes every changing hour,
And weathers every sky."

But, appropriate as they are, they are too numerous for our pages. A few lines from Leyden, however, must not be omitted:

"Oft have I watch'd thy closing buds at eve,
Which for the parting sunbeams seem'd to grieve,
And when gay morning gilt the dew-bright plain,
Saw them unclasp their folded leaves again:
Nor he who sung the 'daisy is so sweet,'
More dearly loved thy pearly form to greet,
When on his scarf the knight the daisy bound,
And dames at tourneys shone with daisies crown'd."

This opening of the flower to the sun gained for it a name, which has in our country outlived some of those by which it was also known in earlier times. Parkinson, referring to these flowers, says: "They are usually called in Latin *Bellides*, and in English Daisies. Some call them *Herba Margarita*, and *Primula veris*, as it is likely after the Italian names of *Marguerite*, and *Fior di prima vera gentile*. The French call them *Pasquettes* and *Marguerites*, and the fruitfull sorte, or those that beare small flowers, *Margueritons*. Our English women call them Jackanapes-on-horseback, as they doe marigolds and childing daisis; but the physitians and apothecaries doe in generall calle them, especially the single and fielde kindes, *Consolida minor*." This last name was doubtless given because the Daisy was supposed to heal or consolidate wounds. Some of its old uses also acquired for it the appellation of Bruisewort; and an old and expressive name of the flower is yet retained in Yorkshire, where it is called Bairnwort. The name of Herb Margaret, once so general in this kingdom, though scarcely remembered now, was from the word *margarita*, a pearl. Chaucer calls the flower, also, the "douce Marguerite." This word was much more in use formerly than now in this country, as we associate

it simply with a woman's name; but pearls and daisies were both once very generally called margarets. Thus, in Wiclif's version of the Bible, we have in Matt. viii., "Nyle ye gyve hooly things to houndis, neither caste ye your margarites before swyn."

This flower was by the monks dedicated to Saint Margaret,—a very popular saint in the olden times, her name and legend having been introduced all over Europe by the first Crusaders. She was the type of female innocence and meekness, and is described in the old metrical legends as

"Maid Marguerite that was so meeke and milde."

Mrs. Jameson tells us that in some pictures she wears a wreath of roses round her head. "I have seen one picture," she adds, "only one, in which she wears a garland of daisies, and carries daisies in her hand and lap."

The Daisy very early became connected with several eminent women of the name of Margaret. Margaret of Anjou, during the days of her prosperity, not only wore the Daisy as a device, but saw it embroidered on the silk and velvet robes of the courtiers who surrounded her, and worn by ladies in their hair in her honour; but when sorrow came to the queen, the daisy flower was rejected as unfit for a courtly ornament. Though Margaret had little of the meekness of which the Daisy is the type, yet her woman's heart was crushed when she saw this neglect, and knew herself to be, too, a blighted flower. Michael Drayton represents the unfortunate queen as saying to the Duke of Suffolk,—

> "My Daisy flower which erst perfumed the air,
> Which for my favour princes once did wear,
> Now in the dust lies trodden in the ground,
> And with York's garlands every one is crown'd."

In later days these devices, or devizes as they were called, came to be matters of profound study, especially among the learned men of Italy, and the daisy figured, with the rose, thistle, and other favourite flowers, very largely in the designs. Paul Jovus, who died in 1552, left a learned treatise on the subject, which about thirty years after his decease was translated into English, to aid persons who made an art of arranging flowers and other objects into devices. The title of this book was, "The Worthy Tract of Paul Jovus, conteyning a Discourse of rare Inventions, both Military and Amorous, called Imprese: whereunto is added a Preface conteyning the Art of composing them, with many other Notable Devizes: by Samuel Daniell, late Studente at Oxenforde. 1585." A large number of writers followed on this subject. Even the learned Camden did not disdain to treat of this matter, and in his "Remains concerning Britain" may be found a chapter on Impreses. One of the writers of the sixteenth century, referring to the art of making devices, says, "It is the most compendious, most noble, most pleasing and most efficacious way of expressing one's self that human art could invent." Henry VII. bore for a device the white and red rose conjoined, or he sometimes wore a hawthorn-bush with the crown as it was found on Bosworth field, the Lady Margaret, his mother, wearing the three white daisies growing on a turf. Margaret, the sister of Francis I., wore the Daisy

also for her device, and was called by her brother his Marguerite of Marguerites, his pearl of pearls. James I. wore the thistle and the rose surmounted with a crown; and Camden says of Queen Elizabeth, that she bore so many as would fill a volume. Louis IX. of France took for a device on his ring a daisy and a lily, in allusion to the name of his queen and to the arms of France, to which he added a sapphire, on which a crucifix was engraved, surrounded with this motto, *Hors cet annuel, pourrions-nous trouver l'amour?* because, as this monarch said, it was the emblem of all that was dearest to his heart, Religion, France, and his wife.

The French still commonly call the Daisy *Marguerite*, though *La paquerette* is also a familiar name for the flower. In their fields it grows as freely as in ours; but no skill can make the Daisy thrive in lands between the tropics. In Germany, where it spangles the green meads in abundance, it is called *Maslieber*, in Holland *Madelieven;* the Italians term it *Margheritina*, the Spaniards *Maya;* and the Russians call our lowly flower by the long name of *Barchatnaja Zwietoschka.* It is not common in Greece, hence we have no Greek name for it, but it is well known in Italy, and the Latins named it *Bellis*, some suppose from the adjective *bellus*, pretty, or, according to others, from *Bellis à bello*, because fitted to heal the wounds made in war. Pliny tells us that it was in his day commonly applied, with one of the wormwoods, in the form of a cataplasm. Professor Burnett considers that the plant has astringent properties, and hence may not have been altogether useless as a vulnerary. An old English herbalist says, "The

greater wild daisie is a wound-herb of good respect, often used in those drinkes and salves that are for wounds, inward or outward." This remark, however, relates to the large Ox-eye Daisy, but he praises, also, the juice or distilled water of the Common Daisy, and says it is fitting to be kept for wounds in oils, ointments, and plaisters, as also in syrup. He tells us that it cures "hurts and bruises that come of falls or blows," and adds that the juice dropped into weak eyes doth much help them; but we should be sorry to recommend the use of so acrid an herb to an organ so delicate. An author, writing in 1696, tells us that they who wish to have pleasant dreams of the loved and absent, should "put dazy roots under their pillow;" and the root, worn about the person, seems also to have been deemed a remedy for some maladies, so that one is reminded of the words of Chaucer—

> "To other woundes, and to broken armes,
> Some hadden salves, and some hadden charmes."

It is said that persons who wish to prevent the growth of their young lap-dogs, give them the daisy roots boiled in milk.

The Daisy is most pretty when its ray is tipped with crimson. This hue is found almost entirely on the plants exposed to the full glare of the sunshine, and seems to disappear altogether when they grow beneath the shade of trees, of the wood or hedge-row. Notwithstanding our partiality for the flower, it must be admitted that it is a troublesome plant to the owner of the green meadow, spreading rapidly by its roots, and at the same

time multiplying quickly by seed, while the leaves, pressing closely over the turf, check all other vegetation. The slightly acrid flavour of the Daisy renders it unpleasing to animals feeding on the pasture.

The Double Daisy of the garden is thought to be but a cultivated variety of our meadow flower, and most of the varieties under culture spring originally from this source, though some, like the *Béllis sylváticus*, and *B. ánnua*, are introduced from the fields of Southern Europe. The transplantation of our Daisy to a richer soil has changed the florets of the disk into broader petals, and thus given us in the double daisy a head of red, white, or varied florets without the yellow centre. In the cottage garden the deep red or white, or variegated daisies, still make a very pretty though old-fashioned border to the bed; and varieties differing still further from the original stock are to be seen yet in the Hen-and-chicken, or Childing Daisy, by which names the proliferous flower is commonly known in rural districts.

43. Chrysánthemum (Ox-eye).

1. *C. Leucánthemum* (Great White Ox-eye).—*Leaves* oblong, blunt, cut, and pinnatifid at the base, those of the root inversely egg-shaped and stalked; *stem* erect, and furrowed; *scales of the involucre* with a narrow membranous margin; *root* annual. Scarcely less ornamental to the meadow land than even the Pearly Daisy are the tall clumps of Ox-eye or Moon Daisy, as the flower is sometimes called, standing up on their stems one or two feet high. We have seen masses of this

plant cultivated in gardens, and attaining there a greater height and size, forming a most beautiful ornament to the flower-bed with the pure white rays round the golden centre. The plant was formerly called Maudlin Daisy; it is abundant in meadows and on waste places, and is a favourite flower with children, who are usually cautioned by careful mothers not to touch the eyes after handling it. The juice is bitter and acrid, and has an old repute of being obnoxious to insects. Professor Lindley remarks: "We are assured by Professor Cautraine that it is a certain remedy against fleas. The Bosnians place the plant in the bed of their domestic animals, and these insects are destroyed in a short time. The Ox-eye blossoms in June and July. Miss Strickland refers to it:—

"Here gay Chrysanthemums repose,
And when stern tempests lour,
Their silken fringes gently close
Against the shower:

And whirls the Blow-ball's new-fledged pride
In mazy rings on high,
Whose downy pinions once untied
Must onward fly."

We are accustomed to apply the name Chrysanthemum almost exclusively to one of the garden species of this genus, the beautiful Chinese Chrysanthemums, which are the glory of the autumnal flower-bed, and which in their turpentine-scented flowers yield us a bouquet long after other blossoms have disappeared. The species *C. Sinense* affords innumerable varieties, and forms the great floral delight of the Chinese and

Japanese, being largely cultivated in pots by the Mandarins. Miller reared this plant in the Chelsea Botanic Garden in 1764, but it seems to have been lost, and it was reintroduced from France in 1795. It was for a long time a very expensive plant, but is now to be seen peeping through many a paling of the cottage garden, and is accessible to every cultivator of flowers.

2. *C. ségetum* (Corn Marigold).—*Leaves* smooth, toothed and lobed, upper ones clasping; *scales of the involucre* egg-shaped and blunt, with a broad membranous margin; *stem* branched; *flowers* solitary, terminal; *root* perennial. This plant, though somewhat local, is so abundant in some districts that every cornfield is spangled with its bright yellow blooms. In June and July its large flowers often contrast beautifully with the blue and scarlet blossoms growing among the corn. In France it is more frequent than in our fields. It has remarkably smooth and glaucous foliage, and the flower stands on an angular stalk about a foot high, which is alternately branched. Both disk and ray of the blossom are of uniform yellow, and it is as large as a garden Marigold.

Beautiful as the flower is, yet growing in land on which ears of corn should be multiplying, it is most unwelcome to the farmer, as are most of its floral companions there:—

> "The lowly Bind with its delicate tinge,
> The azure Succory's silken fringe,
> The modest Scabious of deeper blue,
> And silvery Galium of virgin hue,
> The gay Fluellin and Ox-eye bold,
> And their gaudy neighbour the Marigold."

The French call this flower *Marguerite jaune, Souci des champs, Souci des bleds;* the Italians term it *Crisantemo,* and the French *Chrysantéme,* names which, like our old ones of Golding and Goul, and the German *Goldblume,* refer to its rich hue, and some of which are made from the Greek words Gold-flower. This is not a common plant in Kent, and in some parts of Scotland it is rare. The old Gool-ridings of Scotland were established for the purpose of exterminating this weed from the corn-fields, and a penalty of a wether sheep was paid by the farmer whose field was found so neglected as to furnish a large crop of the Gools. The practice is supposed to have originated with the Vice-Chancellor of Henry VI., who exercised great severity towards the farmers on his own lands, and established the Gool-ridings in order to punish them for their omissions in not clearing the corn of the "Carr-gulds." In Denmark a law compels the extirpation of the Corn Marigold.

44. Matricária (Wild Chamomile, Fever-few).

1. *M. Parthénium* (Common Fever-few).—*Leaves* stalked, flat, twice-pinnate, the segments egg-shaped and cut; *flower-stalks* branched; *stem* erect; *involucre* hemispherical and downy; *receptacle* convex; *pappus* short, toothed; *root* perennial. This is a common plant in waste places and hedges. Its stem is one or two feet high, and the disk of its flower is yellow, with short white rays around it. Persons who are afraid of bees should carry a piece of the plant in the hand, for these insects carefully avoid contact with it, disliking, it is

said, its aromatic odour. Its English name is a corruption of Febrifuge, from its old uses in fevers. It is now commonly called Feather-few, and was so called by some of the herbalists, probably on account of its delicately cut leaves, which are conspicuous even in winter by their green hue. The odour is pleasant, something resembling that of the chamomile, but weaker. The plant was formerly regarded as a specific for ague: it was made into a syrup for winter use, and, mingled with honey, was supposed to cure cold and cough; it was also used as a cosmetic. It is still employed externally as a lotion in cutaneous disorders.

2. *M. inodóra* (Scentless Mayweed).—*Leaves* sessile, twice pinnatifid, the segments thread-like; *stem* branched, spreading; *receptacle* convex; *pappus* entire, or 4-lobed; *root* annual. A variety of this plant, growing on the sea-shores, having fleshy leaves, and a hemispherical receptacle, is sometimes described as *M. marítima*. Everybody knows the common Mayweed, with its very convex yellow disk and long white ray, though it puzzles the young botanist by belying its name, and having an odour which, though not aromatic, is powerful and unpleasant. It is in flower from June to the end of autumn; its stem is about a foot high, and the blossoms large, and on long naked flower-stalks. It grows on banks, field-borders, sea-beaches, and other waste places.

The variety called *marítima*, which is often found on parts of the shore exposed to the sea spray, has been found, on analysis by Mr. Brand, to contain iodine; and the specimens having been well washed previously to analysis, the iodine could not have been derived from

saline incrustation. Some other plants, as a moss called the Sea-side Grimmia, and the pretty flower called the Thrift (*Státice Arméria*), were found also to contain it. Iodine was found to exist in all the tissues of these plants gathered from the sea-side, the specimens being perfectly healthy. Subsequent investigations have detected iodine in a number of substances hitherto unsuspected. M. Châtin believed it to exist in marine and fresh-water plants in all quarters of the globe, while coal is rich in the iodine derived from vegetables of former ages. The anti-scorbutic effects of water-cress, and some other aquatic plants, have been attributed to the presence of iodine in their tissues; and it has been suggested that plants growing in running waters, or in large bodies of water which may be strongly agitated by the winds, contain more iodine than those of stagnant water; and that the proportion is very small in species which are submerged either partially, or only at intervals. Iodine is well known to exist largely in many sea-weeds.

3. *M. Chamomílla* (Wild Chamomile).—*Leaves* smooth, twice pinnatifid, with thread-like segments; *involucre* with blunt scales, slightly membranous at the margin; *receptacle* oblong, narrow, and much raised; *root* annual. The flowers of this plant have a conical disk, and short, toothed, white rays. They expand from June to August, and have a bitter flavour and aromatic odour very much like that of the true Chamomile-flower, for which they are often substituted. Their properties, however, are somewhat less powerful than in that species. This plant grows on waste grounds, and in corn-fields.

45. Anthemis (Chamomile

1. *A. nobilis* (Common Chamomile).—*Leaves* twice pinnate; *segments* very slender and awl-shaped, somewhat downy; *receptacle* conical, the scales scarcely longer than its disk; *root* perennial. Of all the plants which won in the olden times a reputation for their sanatory properties, none have retained more credit in modern days that the Chamomile. In villages it is regarded as supplying the very best of tonics, and chamomile tea is taken in the early morning with unhesitating faith. Even in our days we may sometimes see the delicate invalid sitting by the chamomile bed to inhale an aroma which he hopes will bring strength to the weakened lungs. The flowers are strongly fragrant, and bitter, containing camphor and tannin, and both odour and flavour may be extracted either by water or alcohol. They also afford an essential oil of a fine blue colour, which, on exposure to air, becomes yellow. Their properties are tonic, carminative, and slightly anodyne, and, according to Dr. Schall, the infusion is not only an effectual preventive of nightmare, but the only certain remedy for that complaint. The old writers said that the syrup made of the juice of Chamomile flowers mingled with white wine was a cure for jaundice; and that a decoction of the flowers is "good to wash the head, and comfort both it and the brain." The Chamomile, though somewhat local, is frequent on many commons, as on those about Tunbridge Wells, making the turf fragrant as the foot presses it. The stem is about a foot long, branched and prostrate; each branch

is terminated by a single flower with a yellow disk, (which eventually becomes conical,) surrounded by white rays. All parts of the flower are intensely bitter, especially the yellow disk, and in this and the involucre the chief virtue of the plant resides. The wild plant is on this account preferable to the cultivated one, for culture leaves the blossoms with very little disk, the central florets becoming changed into rays. The difficulty of collecting the wild flower in sufficient abundance renders it, however, necessary that the Chamomile should be planted; and immense quantities of the plant are reared for the London market in the neighbourhood of Mitcham and Tooting, where, during July, August, and September, hundreds of people are engaged in gathering the blossoms.

Our fathers early discovered that, as Shakspeare said, "The Chamomile, the more it is trodden on, the faster it grows;" and country people yet walk daily over the little beds of this plant in their gardens in order to help it to perfection. Our ancestors evidently liked its aromatic scent; for Lawson mentions seats formed of banks of Chamomile and other flowers, on which the men of old times loved to repose in sunshine or shadow. These banks were common in gardens some centuries since, as may be seen in old pictures. One of these, engraved from a MS. of the "Romaunt of the Rose," was given by Mr. T. Hudson Turner, in the Archæological Journal, and represents a bank of earth thrown up against the wall of the enclosure, the front faced with brick or stone, the mould reduced to an even surface, and planted to suit the taste of the owner. Chaucer, too, says—

"And on a little herbere that I have,
That benched was on turves fresh igrave,
I bade men shoulde mee my couche make."

Such a bank, planted with Chamomile among the turf, would present a soft cushion-like surface, and to those who liked the odour would yield, on pressure, a pleasant perfume. Parkinson alludes to this old use of the plant; he says, "It is a common hearbe, well knowne, and is planted of the rootes in alleyes and walkes, and on bankes to sit on, for that the more it is trodden on and pressed downe in dry weather, the closer it groweth, and the better it will thrive: the use thereof is very much both to warm and to comfort and to ease paines, being applied outwardly after many fashions." He adds, as do all the writers of that day, that the decoction of the flowers cures the ague. The scent of the blossom is somewhat like that of the quince, or, as some say, of the apple; hence its name, signifying in Greek Ground Apple. The plant, besides growing wild among the turf of most European countries, is almost universally cultivated for sale. The French call it *Camomille*, the Dutch and Germans *Kamille*, the Italians *Camomilla*, and the Spaniards *Manzanilla*. This plant is not a native of America; but Sir Charles Lyell, in his work on the United States, remarks that he saw it growing all about the neighbourhood of New Harmony, and adds, "Many European plants are making their way here, and it is a most curious fact, which I afterwards learned from Dr. Dale Owen, that when such foreigners are first naturalized, they overrun the country with amazing rapidity, and are quite a nuisance; but they

soon grow scarce, and after eight or ten years are scarcely to be met with at all." Probably this may prove to be eventually the case with some of the weeds carried of late years into the Australian fields, and proving so troublesome to the cultivator. Colonel Mundy says, "Many European plants newly introduced for the gardens in Australia seem to be regularly puzzled by the climate, and to be most singularly affected by it. They seem to bud prematurely, and then remain stationary, as though waiting for a safe opportunity of coming out. When once expanded they are most luxuriant, but one or two hours of southerly wind will so entirely blast the blossoms and young shoots, that a newly-arrived English gardener would suppose that his show of bloom was destroyed for the year. A change of wind and a shower brings a regeneration more lovely than before; and such may occur half a dozen times ere the midsummer sun finally scorches the poor exotics to tinder. Notwithstanding this, however, several of our wild weeds, as the horehound, the sow-thistle, the thistle, and the poppy, have established themselves in that country in great luxuriance and over wide extents, and it remains for time to show whether in the course of years they will become more or less abundant on the soil."

2. *A. Ánglica* (Sea Chamomile).—*Leaves* pinnatifid, somewhat hairy, lobes cut and serrated, acute, bristle-pointed, rather fleshy; *receptacle* flat; *fruit* crowned with a very narrow entire border; *roots* perennial. This plant, which was found in 1844 on the sea-coast at Sunderland, is probably not truly wild. Its stem is prostrate and branched, and, as well as its involucre,

downy. It bears, in July, flowers with a yellow disk and white rays, the scales of the receptacle being shorter than the opened corollas.

3. *A. tinctória* (Ox-eye Chamomile).—*Stem* much branched; *leaves* twice pinnatifid, downy beneath, serrated; *receptacle* hemispherical; *fruit* four-sided; *root* annual. This species being often planted in gardens is frequently, if not always, an outcast from cultivated ground. It has been found, though rarely, in fields and stony places, on the banks of the Tees near Durham, and one or two other spots whence it has now disappeared. The large flowers grow singly on long stalks, and both ray and disk are of a golden yellow. The stem is one or two feet high and cottony, and the leaves are rough or hairy above, and white with down beneath. The flowers expand in July and August, and are in France gathered from the fields to be used by dyers, as they yield a beautiful yellow tint.

4. *A. arvénsis* (Corn Chamomile).—*Stem* upright, branched, and downy; *leaves* twice pinnatifid, segments slender, lanceolate; *receptacle* conical, its scales lanceolate; *fruit* crowned with an entire ring; *root* biennial. This plant is found, though rarely, on the borders of cultivated fields both in England and Scotland. Its heads of flowers, which grow singly on long stalks, on a furrowed stem one or two feet high, expand from June to August; they are large, have a bright yellow convex disk and a white ray, and the florets have always styles, a circumstance which distinguishes this species from the rest. The flowers are scentless, and the leaves and stem quite white with down.

5. *A. Cótula* (Stinking Chamomile).—*Leaves* twice pinnatifid, nearly smooth, lobes linear, acute, mostly entire; *receptacle* conical, its scales linear, bristled; *pappus* none; *rays* without styles. The flowers of this species grow singly on long terminal stalks, having a pale yellow convex disk, and a white ray. The stem is from one to two feet in height, branched, angular, and furrowed. It is a very common plant on waste places, banks, sea-beaches, and heaths, and in the south of England is one of the most abundant weeds. It is, however, unfrequent in some of the northern counties, and Dr. Johnston says it is not to be found anywhere in the neighbourhood of Berwick-upon-Tweed. Many a one in wandering through the corn-fields in July and August has gathered it in expectation of finding the fragrant odour of the Chamomile, and has thrown it from him in disgust, for few of our wild plants emit a more offensive odour. It increases by seed with amazing rapidity, and naturalizes itself most easily where, as in some parts of America, it has been accidentally introduced. In our own land it will often so overrun the corn-field as very seriously to disappoint the expectations which the farmer forms of his crop. It has several country names, some of them relics of the olden times, and too profane for record here, but Mather and Stinking Mugwort are among those by which it is commonly called in country places. It is said to be sometimes, notwithstanding its unpleasant odour, mingled with the chamomile of commerce, but its properties are somewhat different from those of that plant, for the juice is very acrid, and blisters the hands of reapers when gathering in the

corn. It has, however, tonic properties, and its powerfully bitter infusion is often taken medicinally. Bees certainly pass by it when gathering honey, and it is said to be obnoxious to them and to many other insects; but Linnæus observed that it was grateful to toads. Its flowers are much like those of the true Chamomile, but larger. Its seeds have many warty angles, or rough points. The Hon. Mr. Curzon, when in Armenia, saw a species of Chamomile (*Anthemis rosea aut carnea*), the powder of which instantly kills fleas and other insects, and which, he says, would be invaluable to travellers in warm climates. The people call the plant *Piré otou*, and our author relates in a most amusing manner the miseries of a little dog, which was subjected to the intrusion of a great number of fleas, until one of the grooms, commiserating his condition, put himself to the expense of a farthing in purchasing two good handfuls of the *Piré otou*, the effect of which was magical. In one minute every insect was destroyed, and, as this writer narrates, "Fundook swaggered into the kitchen a renovated dog."

46. Achilléa (Yarrow, Milfoil).

1. *A. Ptármica* (Sneeze-wort Yarrow).—*Leaves* shining, slender, lanceolate, tapering, acute, uniformly and finely serrated, the serratures rough at the margin; *ray* as long as the involucre, 8—12-flowered; *scales* of the involucre with a dark brown membranous border; *root* perennial. This is a very pretty plant of our waste grounds and moist meadows, by no means rare, though

not, like the Common Yarrow, a denizen of every green-sward. It is tall and slender, the stem sometimes three feet high, though more commonly half that height. This is quite erect, and terminates in a rather large corymb of flowers, of which both disk and ray are white, and each flower often as large as a daisy. The plant is very common on mountainous regions, and blossoms in July and August. All parts have a pungent flavour. When put in the mouth it promotes saliva, in the same way as the Pellitory of Spain, and, like that plant, it will often cure tooth-ache. It has been much used medicinally, and in spring its young shoots add a pleasant flavour to the dish of salad. When dried it excites sneezing, and the Highlanders are said to use it as a substitute for snuff. Most animals will eat it on the pasture.

A double-flowered variety of the Sneeze Yarrow is often cultivated in gardens, and called Bachelor's Buttons; and this with some other species, as *A. nana* and *moschata*, are among the plants called *Genipa* in various Alpine districts. Several of the species grow at great elevations, and many are found on wide extended plains, as on the Steppes bordering the Dnieper in Russia, where species of Yarrow, Mullein, Wormwood, Spurge and Thistles are mixed with the tall dry grass, and, being commonly used for firing, are included in the general name of Burian fuel. These flowers render the Steppes beautiful during spring-time, covering them for a few months as with an embroidered carpet, but they are soon scorched up by the burning sun of summer.

2. *A. decolórans* (Dotted-leaved Yarrow). — *Leaves* thick, downy, closely dotted, very narrow, lanceolate, coarsely and doubly serrate, with spreading serratures cut into long narrow teeth at the base; *ray* 5—6-flowered, as long as the involucre; *root* perennial. Mr. Babington remarks of the leaves of this plant, that they are "not all attenuated, and very different in shape, consistency and sculpture from any of the preceding." The flowers, too, which appear in September, are peculiar in their pale buff-coloured rays. The stem is unbranched, erect, leafy, downy, with axillary leafy tufts. The plant has been found near Matlock, in Derbyshire, but is a very doubtful native.

3. *A. Millefólium* (Common Yarrow, or Milfoil).— *Leaves* deeply twice pinnatifid, either woolly or nearly smooth; *lobes* cut into slender acute segments; *stems* furrowed; *scales* of the involucre nearly smooth; *root* perennial. Several of the old names of this plant are very significant of its former uses: Souldier's Woundwort, Knyghten Milfoil, and Nose-bleed, all show how much our fathers prized this herb as a vulnerary; while its common name of Old Man's Pepper indicates its use as a condiment to the salad, though it scarcely merits this distinction, for but a slight pungency exists in its young leaves. It is, however, bitter, and has a good deal of astringency, though, as Professor Burnett remarks, "it is little esteemed, except by the good women of the Orkneys, who hold milfoil tea in high repute for its power in dispelling melancholy." Its odour is slightly aromatic, and the fresh roots have a warm and pleasantly pungent flavour; there is no

doubt that any part of the plant is a safe and useful application to wounds. It is still in common use to cure head-ache, and people in villages yet put this herb up the nostrils to stanch bleeding. We have known people take large quantities as a remedy in consumption; but the herb is too powerful to be used safely in so extensive and indiscriminate a manner, though the yarrow salve still made by country people deserves some praise.

The Yarrow is so common a plant that it may be found on every heath, or meadow land, or sunny bank; and we could rarely wander into an English churchyard from June to September without seeing its dense clusters of white flowers, more or less tinged with a pinkish or purple hue, growing on an angular stem one or two feet high. Its dark green beautifully-cut leaves add much to its beauty, and it may often be found looking fresh and verdant when the chilling winds of winter have swept from the mead all flowers save itself and the daisy; and sometimes a stray plant of Yarrow will smile to the sunshine of a Christmas day. Agnes Strickland has some lines to this flower:—

"Green Yarrow, Nature's simplest child,
Thy leaves of emerald dye,
And silvery blossoms undefiled,
On rugged path, or barren wild,
The traveller passes by
With reckless glance and careless tread,
Nor marks the kindly carpet spread
Beneath his thankless feet;
So poor a meed of sympathy
Do generous herbs of low degree
From haughty mortals meet.

"But thou a resting-place hast found
Which none disputes with thee:—
The silent churchyard's lowly bound,
Where sweetly on the hallow'd ground
Thou growest wildly free;
Aye mantling o'er each nameless mound
Thy graceful foliage creeps around,
And thy pale blossoms wave,
Wet with the dew's descending shower,
Beneath the yew's funereal bower,
And mourners in the autumn hour,
Behold and bless the gentle flower
That decks the peasant's grave."

Achilles is said to have been the first who used this as a wound-herb, and the plant, which is as abundant on many of the fields of the Continent as on ours, has several names which allude to the warrior whose deeds the ancient poets have recorded. Thus it is the *Achillenkraut* of the Germans, the *Achillea* of the Italians, and the *Aquilea* of the Spanish. The Dutch term it *Duizendblad*, and the French, besides calling it *Achillée*, know it also as *Herbe au charpentier*, because its healing powers are fitted to heal the wounds of any sharp instrument used by the mechanic.

4. *A. tomentósa* (Woolly Yellow Milfoil, or Yarrow). —*Leaves* woolly, pinnatifid; *lobes* crowded, 2—3-cleft; *segments* slender, acute; *corymbs* repeatedly compound; *scales* of the involucre woolly; *root* perennial. This plant, which grows on several dry hilly pastures in Scotland, has a woody stem about six or eight inches high, prostrate at the base. The flowers expand in August, and both ray and disk are of a golden yellow, growing on much-branched corymbs. The leaves are downy.

The small size of the species readily distinguishes it from the others, but there is little doubt that, on the few spots where it occurs, it has escaped from cultivation.

47. Xánthium (Bur-reed).

1. *X. strumárium* (Broad-leaved Bur-reed). — *Stem* without spines; lower *leaves* heart-shaped, 3-lobed at the base, coarsely toothed; *fruit* downy, with two straight beaks, having hooked prickles; *root* annual. This plant is placed by botanists in an anomalous genus, as not agreeing in characteristics with any other of the compound flowers. It can scarcely be said to be even naturalized, though occurring in several places in the south of England, and about Kerry in Ireland, on waste grounds where the soil is rich and moist. Its stamens and pistils are in separate flowers on the same plant, and the prickly involucres which surround the fertile flowers enlarge and become part of the fruit. Its blossoms expand in August and September, and its greenish flowers are more curious than beautiful. Dioscorides mentions that an infusion of this plant dyes the hair yellow, and though yellow hair would not in modern days be so highly prized, yet that it was so in earlier days, the poets, from Chaucer to Spenser, abundantly testify. The latter poet thus praises the beauty of one of his heroines:—

> "Her long loose yellow locks, like golden wire,
> Sprinkled with perle and perling flowers between,
> Do like a golden mantle her attire."

At that time it was usual not only to dye the hair yellow, as in the days of Dioscorides, but to give it that

tinge by sprinkling over it a yellow powder. This must account for the number of portraits of yellow-haired people which belong to the period of Queen Elizabeth.

The Bur-reed is also called Lesser Burdock, because in its general habit, leaves, and flowers, it is much like that plant. Some of the exotic species, as the Spiny Bur-reed (*X. spinósum*), and the Hedgehog Bur-reed (*X. echinátum*), are still more like burs than this, and the spiny species is by many thought to be the one referred to by the ancients. The Bur-reed is called in France *Lampourde;* in Germany, *Spitzklette;* in Holland, *Kleine Klissen.* The Italians term it *Lappola minore*, and the Portuguese, *Bardana menor.*

Order XLVII. CAMPANULACEÆ.—THE BELL-FLOWER TRIBE.

Calyx superior, 5-lobed, remaining till the fruit ripens; *corolla* of one petal, rising from the mouth of the calyx, 5-lobed, and withering on the fruit; *stamens* equalling in number the lobes of the corolla, and alternate with them; *anthers* not uniting, except in the genus *Jasióne; ovary* inferior, of two or more many-seeded cells; *style* 1, covered with hairs; *stigma* simple, or with as many lobes as the ovary has cells; *fruit* dry, crowned by the withered calyx and corolla, splitting, or opening by valves at the side or top; *seeds* numerous, fixed to a central column. The Bell-flowers and their allies are herbaceous or somewhat shrubby plants, with round or irregularly-angled stems, mostly alternate leaves,

without stipules. They have a milky bitter juice, and the roots of several species are edible; but they are more valued for the beauty of their flowers than for any economical uses.

1. Campánula (Bell-flower).—*Corolla* bell-shaped, with 5 broad and shallow lobes; *filaments* broad at the base; *anthers* distinct; *stigma* 2—5-cleft; *capsule* 2—5-celled, opening by pores at the side, rarely at the top. Name from the Latin, *campana*, a bell.

2. Phyteúma (Rampion). — *Corolla* wheel-shaped with 5 deep lobes; *filaments* broad at the base; *anthers* distinct; *stigma* 2—3-cleft; *capsule* 2—3-celled, bursting at the side. Name from the Greek, *phyton*, a plant.

3. Jasióne (Sheep's-bit).—*Corolla* wheel-shaped, with 5 long narrow segments; *anthers* united at their base; *stigma* 2-cleft; *capsule* 2-celled, opening at the top by small teeth; *flowers* in heads, within a many-leaved involucre. Name of uncertain origin.

1. Campánula (Bell-flower).

* *Corolla bell-shaped; capsule top-shaped; pores just below the calyx segments.*

1. *C. pátula* (Spreading Bell-flower).—*Stem* angular, rough; *leaves* somewhat rough, with rounded notches at the margin, wavy, oblong, and sessile, lower ones tapering at the base; *flowers* few, on long stalks, in spreading panicles, erect, with the clefts close to the calyx segments; *root* annual. This is by no means a common plant. It is almost limited to the midland and south-eastern counties of England, where it occurs

in pastures and hedges, and even there is seldom abundant. It is somewhat similar to the Common Harebell, but is distinguished from it by its rough stem and loose panicles of larger, more open, cup-shaped, and deeper purple flowers. The Rev. W. T. Bree, referring to this plant at Allesley, in Warwickshire, says: "In the immediate neighbourhood of this place I should seek in vain for a wild specimen of such plants as the Viper's Bugloss, the Blue Succory, Kidney-vetch, Wood Spurge, Wild Clary, Common Wormwood, and several others equally common; while the beautiful *Campánula pátula*, generally, and with reason, considered one of our rarer natives, occurs plentifully in this and other parishes of the neighbourhood. I have been told, that, some years ago, a noble lady resident in this country informed the celebrated Mr. Curtis that *C. pátula* was common in Warwickshire. As her ladyship was at that time only commencing the study of Botany, Mr. Curtis seemed unwilling to credit the statement, and concluded that some other more common species had been mistaken for the one in question, assuring her at the same time that *C. pátula* was one of our rarest English plants." This plant is in flower from July to September, and its stem is about two feet high.

2. *C. Rapúnculus* (Rampion).—*Stem* somewhat angular, rough; *leaves* with rounded notches at the margin, those of the root oblong, inversely egg-shaped and stalked, upper ones slender and lanceolate; *panicle* of flowers erect; *root* perennial. This species, which is not common, occurs on some gravelly soils in several of he midland counties, as well as in Kent and Surrey,

and a few spots as far as Norfolk to the north of this kingdom. It is a straight tall plant, its stem two or three feet in height, with clustered panicles of rather small flowers, not spreading, but truly bell-shaped, and of a pale blue colour, and the calyx consisting of five awl-shaped segments. It is doubtful if this is truly wild, for it was much cultivated in this country in former times, and was probably introduced from the south of Europe, in most of the countries of which, as well as in Barbary, it grows wild and in abundance. Its root is white and thick, something like a little turnip, but more tapering; hence its name from *Rapa*, a radish, while the French call the plant *Raipónce;* the Germans, *Rapunzel;* and the Italians, *Raperonzola*. The root, which was formerly prized as an edible vegetable throughout Europe, was largely cultivated in the kitchen-gardens of this country, and called Ramp. Michael Drayton describes it as "the Rampion rare," and several old writers mention it as a valuable vegetable. It is still cultivated to some extent as an esculent in France and Italy, but it is now only to be seen in this kingdom in the gardens of the curious, or in wild spots where it has become naturalized. The roots were either boiled and eaten with sauce, or sliced and prepared with vinegar and pepper as a salad. An Arabian species, *C. édulis*, has also a thick sapid root, containing an abundance of starch, and is much eaten.

3. *C. persicifólia* (Peach-leaved Bell-flower).—*Stem* smooth, rounded, and few-flowered; *root-leaves* inversely egg-shaped, narrowed into a leaf-stalk, and with rounded marginal notches; *stem-leaves* slender, lanceo-

late, and sessile, with very narrow serratures; *calyx* segments entire; *root* perennial. This is a very doubtful native, found in woods near Cullen in Scotland, bearing in July its large open blue flowers, which spread so much as scarcely to remind one of a bell. The flowers of the plant are in the wild state often solitary, but when cultivated in our gardens they sometimes crowd together at the upper part of the stem. It is by the gardeners called Paper Bell-flower, from the stiff though delicate texture of the blossoms, which are often double, and form azure or snowy rosettes. It is among the oldest ornaments of our parterre. Gerarde says of it in 1597, "It is planted in our gardens, but does not grow wild in England." The French call it *Campanule des jardins*, and *Campanule à feuilles de pêcher*.

4. *C. rotundifolia* (Round-leaved Bell-flower).—*Stem* smooth; *root-leaves* heart-shaped or kidney-shaped, shorter than their stalks; *stem-leaves* slender, the lower ones lanceolate; *calyx* segments awl-shaped; *root* perennial. This plant, the Harebell of the poets, is by modern botanists restored to the old orthography from which it was corrupted, and written Hairbell. It grows wild on heaths, banks, and braes, and few who saw it nodding on the wind-swept hill would deny to the flower on so slender a stem its appropriate name. It is throughout Europe a very favourite flower, and is the *Clochette* of the French, and is called by the Germans either *Weisen-Busch*, or Grass-glass. In some English counties it is familiarly called Witches' Thimble. The leaves on the stem are narrow, but the plant derives its specific name from those about the root, which appear in winter and

early spring, but wither by July, when the flower is beginning to droop on its stem. Linnæus characterised it by these leaves, having first observed them in winter on the steps of the Upsal University. The graceful azure bell is very abundant on sunny slopes amid short grass until the month of September.

"On its fair fragile stalk all lightly swaying,
Trembles the Harebell at each passing breeze,
Or bends to earth, if haply, there delaying,
Seeks its blue depths the velvet-coated bees,
Who, charter'd plunderers, unwearied winging
Their buoyant course from flower to flower, pursue
From hour to hour their toils, till laden, bringing
Home golden treasures with the evening dew."

This is one of the flowers so common, that like the daisy, it would, when seen in any foreign land, remind us of early days and early scenes. Mrs. Moodie tells us, that in Canada she was deeply affected by the sight of some of these flowers. "Passing our way through the bushes," she says, "we came to a small opening in the underwood, so thickly grown over with roses in full blossom, that the air was impregnated with a delightful odour. In the centre of this bed of sweets rose an humble mound, that protected the bones of the red man from the ravenous jaws of the wolf and wild cat. It was completely covered with stones, and from among the crevices had sprung a tuft of blue Harebells, waving as wild and free as if they grew among the bonny red heather on the glorious hills of the North, or shook their tiny bells to the breeze on the broom-encircled commons of England."

Much difference of opinion at one time existed as to

whether this is the Blue-bell of Scotland, or whether that flower is the wild hyacinth, commonly in England called Blue-bell. But few Scotsmen will doubt whether the graceful Campanula, so common on their heather downs, is the flower which they would link with home and country; though Dodonæus says, that in his time the wild hyacinth was commonly known by the name of Harebell. Modern poets of Scotland all claim the Campanula both as their Blue-bell and Harebell. We have Robert Nicolls saying,—

"I winna bide in your castle halls,
Nor yet in your lofty towers,—
My heart is sick o' your gloomy hame,
An' sick o' your darksome bowers;
An' O, I wish I were far awa'
Frae their grandeur and their gloom,
Where the free-born lintie sings its sang
On the muir o' gorse an' broom.

"Sae weel as I like the healthfu' gale
That bla's fu' kindly there,
An' the heather brown, an' the wild blue-bell,
That wave on the muirland bare;
An' the singing birds, an' the humming bees,
An' the little lochs that toom
Their gushin' burns to the distant sea,
O'er the muir o' gorse an' broom."

Walter Scott, too, evidently alludes to this flower when, in the "Lady of the Lake," he represents Ellen as gathering it:

"For me:—she stoop'd, and looking round,
Pluck'd a blue Harebell from the ground
For me, whose memory scarce conveys
An image of more splendid days.

This little flower, that loves the lea,
May well my simple emblem be;
It drinks Heaven's dew as blithe as rose
That in the king's own garden grows."

Two or three species of bell-flowers seem to have shared in the general name of Harvest-bells, because they bloomed in autumn. Clare apparently calls this by that name:—

"Among the heath-furze still delights to dwell,
Quaking, as if with cold, the Harvest-bell."

The roots of this Campanula may be eaten, and the juice of the flower makes a very good ink, which, when alum is mingled with it, becomes of a rich green colour. Large clusters of the Harebell are sometimes planted in gardens with very good effect; and a white variety, occurring rarely on our downs, and more frequently on those of France, is also often planted in gardens. The French call this modest white flower *La religieuse des champs.*

The peculiar structure of this prettily veined Bluebell is described in so lucid and interesting a manner by Professor Lindley, in his "Ladies' Botany," that we shall quote it for our readers. One is struck in reading a work like this, at once so scientific and simple in its details, with the contrast afforded between the works of modern men of science, and some that were published in the olden time. Sir Hugh Plat wrote his "Garden of Eden" in 1675; and in his Epistle to all "Gentlemen, Ladies, and all others delighting in God's vegetable creatures," takes great praise to himself for his explicitness. Referring to that "gallant and glorious Italian,"

Io Baptista Porta, he says, "I make no question that if he had knowne this part of vegetable philosophy, he would have penned the same as a sphinx, and roled it up in the most cloudy and darksome speech that he could have possibly devised." Very different from this "glorious Italian" is our author. "From the base of the corolla of the Harebell," says Dr. Lindley, "and consequently from the summit of the ovary, spring five stamens, whose filaments are broad, firm, and fringed, curving inwards at the base, and bending over the top of the ovary as if to guard it from injury: these points touch the style, and keep the anthers parallel and in contact with it, till they shrivel up and fall back, which happens immediately after the flower unfolds. The style is a taper stiff column, about the length of the corolla, and shorter than the stamens. It is covered all over, up to the very tips of the stigma, with stiff hairs; which Nature has provided to sweep the pollen out of the cells of the anthers, as the style passes through them in lengthening; if it were not for this simple but effectual contrivance, as the anthers burst as soon as ever the corolla opens, their pollen would drop out of the nodding flowers, and be lost, before the stigma was expanded and ready to receive the fertilizing influence."

"Next let us look at the ovary. This organ is, in the Harebell, a case containing three cavities, or cells, surrounding a central axis; in each cell there is a large fleshy receptacle, over which is spread a multitude of ovules. After the stigma is fertilized, the corolla and the stamens drop off; the sepals harden, enlarge, and collapse; all the parts become browner and thicker;

stout ribs appear on the substance of the ovary, which droops still more than the flower itself; and at last a general dryness, hardness and brownness announce that the ripening of the fruit is accomplished. But how are the dust-like seeds ever to find their way out of the lidless box, or to penetrate its tough sides? Considering what happens in so many other plants, we should naturally expect that it would take place by a separation of the edges of the three carpels into valves near their points; but upon looking at the top of the ovary, between the sepals, we find that part still tougher than the sides, and without the slightest appearance of an opening. It is by a rending of the thinnest part of the sides of the fruit in the fork of the principal ribs, that these valves are produced, and that Nature provides for the escape of the seeds; the rending takes place upon the final drying of the sides of the fruit, when every part becomes stretched so tight, that any weak portion must of necessity give way. As the stretching takes place with uniformity, and as the skin at the forks of the ribs is always more tender than any other part, the opening of the valves will consequently occur with the same invariable certainty as the formation of the seeds."

This exquisitely adapted contrivance of His hand who has made "summer and winter," and decked with beauty the lilies of the field, is not confined to the Harebell, but is shared by all the plants of the genus.

5. *C. latifólia* (Giant Bell-flower). — *Stem* erect, slightly angular; *leaves* egg-shaped and lanceolate, tapering, rough, doubly serrated, lower ones stalked; *stalks* one-flowered; *calyx* smooth, its segments lance-

olate, pointed, and finely serrated; *root* perennial. This is a very conspicuous, though not a generally distributed plant. It grows in moist shady woods, and is very rare in our midland and southern counties, though less so in the North of England, while it is frequent in those of Scotland. The stem is two or three feet high, stout and strong, with very large stalked flowers, of purplish blue, which in the Scottish woods are often of a pure white. They are hairy within, and far exceed in size those of any other of our native Bell-flowers. This plant is often called Canterbury-bell, though *C. médium*, a German species found in our gardens, is also so distinguished by many. Gerarde says of the Canterbury-bell, "It doe grow very plentifully in the lower woods and hedgerows of Kent, about Canterbury, Sittingbourne, Southfleet, Greenhithe, and several other places." He calls it also Haskewoort and Throtewoort; but his description evidently refers to the Nettle-leaved Bell-flower. The Giant species, however, in all probability, was the first plant termed Canterbury-bell, if, as we believe, the opinion of a learned Roman Catholic writer as to the origin of its name be the correct one.

The name of Canterbury-bell may possibly have been given to the plant from the place of its growth, but it is far more likely that, as Dr. Rock has suggested, it was so called from its resemblance to the hand-bells which were placed on poles, and rung by pilgrims when proceeding to the shrine of Thomas à Becket. The details of these processions to the tomb of the "blisful martir," have been rendered familiar to us by Chaucer and other old writers; and William Thorpe, a Lollard,

who was, in 1407, examined by Bishop Arundel, describes them in no measured terms. He says: "Everie towne that they come through, what with the noice of their singing, and with the sound of their piping, and with the jangling of their Canterburie bels, and with the barking out of dogges after them, they make more noice than if the king came there away with all his clarions and many other minstrels."

Coventry-bells, Harvest-bells, Mariets, Mercury's Violets, and Wood Bell-flower, were also common names for different species in the olden time; and it is quite probable that Clare alludes to the Nettle-leaved species when he writes of the Canterbury-bell, as it is the commonest of any of the large-flowered kinds :—

"And down the hay-fields, wading 'bove the knees,
Through seas of waving grass, what days I've gone,
Cheating the hopes of many labouring bees,
By cropping blossoms they were perch'd upon;
As thyme along the hills, and lambtoe knots,
And the wild stalking Canterbury bell,
By hedgerow side, or bushy bordering spots,
That loves in shade and solitude to dwell."

6. *C. rapunculoides* (Creeping Bell-flower). — *Stem* erect, slightly angular, leafy, scarcely branched; *leaves* rough, unequally notched at the margin, lower ones heart-shaped, on long stalks, upper ones lanceolate and sessile; *stalks* one-flowered; *flowers* forming a one-sided leafy raceme; *calyx* segments slender and entire, at length turning backwards; *root* creeping and perennial. This is a large and handsome species, having a stem two feet high, and bearing, in July and August, large hand-

some blue flowers; the leaves gradually narrowing on the upper part of the stem. It might be cultivated for the same purpose as the rampion, as its roots have a similar flavour, and are equally wholesome. It is a rare plant in woods and fields, and occurs in some parts of Oxfordshire and Yorkshire, as well as some other spots in England, Scotland, and Ireland.

7. *C. Trachélium* (Nettle-leaved Bell-flower).—*Stem* angular; *leaves* coarsely doubly serrated, lower ones heart-shaped, long-stalked, upper nearly sessile and pointed; *flower-stalks* axillary, few-flowered; *calyx* segments lanceolate and erect; *root* perennial. This is a very common flower, easily known from all the other species by its leaves, shaped like those of the common nettle. It is a very rough plant, and has a stem about two feet high; bearing, from July to October, rather large flowers of a deep purple, or more rarely, as in some parts of Hampshire, of a white hue. It is a handsome addition to the wild nosegay gathered from wood or copse or bushy hedge-bank; and we have, in Kent, seen its bells employed for the same rustic purpose as that to which Clare refers, in Northamptonshire:—

> "When glow-worm found in lanes remote
> Is murder'd for its shining coat,
> And put in flowers that Nature weaves,
> With hollow shapes and silken leaves,
> Such as the Canterbury-bell,
> Serving for lamp or lantern well."

This plant, as well as some other of the species, was formerly used in complaints of the throat, and shared with other kinds the name of Throatwort.

8. *C. glomeráta* (Clustered Bell-flower).—*Stem* angular, simple, nearly smooth; *leaves* with very small serratures, lowermost stalked, egg-shaped, somewhate lanceolate and heart-shaped at the base; upper leaves sessile, half-clasping, egg-shaped, acute; *flowers* sessile in terminal and axillary clusters; *root* perennial. This handsome Bell-flower is readily known by the clusters of erect, dark, downy, purple, funnel-shaped flowers, surrounded by bracts about half their length. These appear in July and August. The height of the stem varies from three or four inches to a foot; and when the plant is grown in the garden, it is sometimes a foot and a half high. It is not an uncommon plant on dry hilly pastures in England, where the soil is of clay or chalk, but in Scotland is chiefly confined to the eastern counties. In the little village of Bartlow, in Cambridgeshire, there are four remarkable hills, supposed to have been thrown up by the Danes, as monumental memorials of the dreadful battle fought in 1016, between Canute and Edmund Ironside. The author, some years since, found this Clustered Bell-flower largely scattered about these mounds, and on asking of some cottagers the name of the flower, was told that it was the "Dane's-blood," and so called because it sprang up from the blood of the Danes. On further inquiry of people in the neighbourhood, she found it universally known there by this name, which is doubtless a very old local one. Several slight varieties of this plant occur, which are by foreign botanists described as distinct species; thus, if the plant grows on a rich soil, or is transplanted to such, it loses the intensity of its blue tint. It is sometimes found in

gardens, but is less prized there than the most ornamental Bell-flower of the parterre, the pyramidal species, *C. pyramidális*, which our old writers called Steeple-milkie Bell-flower. This grows wild in Southern Europe; and in other countries, as in ours, its handsome wide-spread blue or white flowers, trained over a hoop or spreading frame, may often be seen in the window, either of mansion or cottage. It is much used in Holland to place before the fireplace in summer.

* * *Corolla bell-shaped; capsule somewhat globose.*

9. *C. hederácea* (Ivy-leaved Bell-flower).—*Stem* weak, thread-like; *leaves* all stalked, roundish, heart-shaped, angular, and toothed; *flowers* solitary, on long stalks; *root* perennial. This pretty little plant would be known at a glance from any other wild flower, by its bright green ivy-shaped leaves, and in its season of blossom, by its tiny blue bells. A very lovely little plant it is; and it is not an unfrequent one in the South and West of England, growing beside the Bog Asphodel and the graceful Bog Pimpernel, and others of the lovely flowers which peep up from among the large mosses to which the streamlet brings a perpetual emerald greenness. It is abundant in Cornwall; and from July to September large masses of the plant may be found upon the moorlands, with their blue bells scattered by thousands among the delicate leaves which lie on the slender branches. The flower-stalks are hardly thicker than a sewing-thread; every breath of wind stirs the bells to motion, and they would be too small to furnish a canopy

to a full-grown house-fly. The plant is usually about five or six inches in height, but when growing beside some rush or nodding hair-grass, it avails itself of the aid of its stouter neighbour, and climbs up to the height of twelve inches or more. Gerarde, who calls it the Tender Bell-flower, says it was first seen in this kingdom by Master George Bowles, who in 1632 found it on the dry banks of Montgomeryshire, for a long distance on the highway, though such a situation would certainly be a very unusual one for this plant.

* * * *Corolla nearly wheel-shaped; capsule linear oblong, opening by lateral pores between the segments of the calyx.*

10. *C. hybrida* (Corn Bell-flower).—*Stem* either simple or branched from the base; *leaves* oblong, waved, with rounded notches; *corolla* widely spreading, shorter than the calyx segments; *capsule* triangular; *root* annual. This is a small plant, less like a Bell-flower than any of the other species, as its corolla spreads quite out, so as to be almost flat. The stem is from four to twelve inches high, rough and wiry; the plant has waved oblong leaves, with a few terminal flowers of dull bluish lilac, surrounded by the long calyx segments, and expanding from June to September. It occurs on dry chalky corn-fields in the middle and south of England. The author has found it in fields about a mile out of the town of Chatham, in Kent. This species is, by some writers, included in the genus *Specularia*, and is very nearly allied to the Venus's Looking-glass of our

gardens, which is a Corn Bell-flower of Southern Europe. This last is said formerly to have grown wild in our fields, but was most probably introduced from the other side of the Channel, among the grain. Gerarde says of our Corn Bell-flower, "I found it in a field among the corne, by Greenhithe, as I went from thence unto Dartford in Kent, and in many other places thereabout, but not elsewhere; from whence I brought of the seedes for my garden, where they came up of themselves, from yeere to yeere, by falling of the seedes."

2. Phyteúma (Rampion).

1. *P. orbiculáre* (Round-headed Rampion).—*Flowers* in a round terminal head, with lanceolate bracts; lower *leaves* notched, heart-shaped, stalked; upper narrow and sessile; *root* perennial. This is a very singular plant, having a leafy stem, a foot or a foot and a half high, on which, in July, stands a round head of the most rich blue flowers. After these handsome blossoms have departed, the plant is remarkable for the heads of fruit, which form a perfect oval, and have their calyxes remaining and spreading out in a starry form. This Rampion is rare, growing on a chalky soil in the south of England, as the open downs of Kent and Sussex. Not a leaf is to be seen in July about its root, for, as in the Harebell, by the time of flowering the foliage has all withered away.

2. *P. spicátum* (Spiked Rampion).—*Heads of flowers* oblong, of fruit long and cylindrical; lower *leaves* egg-shaped and heart-shaped, somewhat doubly serrate,

stalked; upper *leaves* slender, lanceolate, and sessile; *bracts* slender. This rare species has been found only in Sussex, where it grows in the woods and thickets about Waldron. Its stem is one or two feet high; each stem bearing, in June and July, a solitary terminal head of cream-coloured flowers. The spike of flowers is from two to four inches long. The root is edible, and was formerly cultivated and eaten, either as a salad, or boiled. It is still a common vegetable in Switzerland.

3. Jasióne (Sheep's-bit).

1. *J. montana* (Annual Sheep's-bit, or Scabious).—*Leaves* oblong, somewhat blunt, wavy; *flowers* stalked; *stem* simple or branched, downy; *bracts* smooth or hairy; *calyx-segments* narrow and bristly; *root* annual or biennial. The heath and open down are very beautiful at Midsummer, often reminding one of Tennyson's words:—

> 'Calm and deep peace on this high wold,
> And on these dews that drench the furze,
> And all the silvery gossamers
> That twinkle into green and gold."

The Sheep's-bit is often found growing there among furze and heather, from June to September; for it flourishes in profusion on the gravelly or heathy soil of sunny slopes, having dense hemispherical heads of flowers of a bright blue colour, with a leafy involucre below them, on stems from six inches to two feet high, several of which arise from the crown of the root. These flowers are some-

what like those of the Scabious; but the plant may be distinguished from those of that genus by the anthers being united at their base. The French call this Sheep's-bit *Jasione;* the Dutch, *Schaapskruid.* It grows on dry places in Sweden, where it is termed *Mouke;* and the Spanish and Portuguese call it *Jasione.* It has, in the union of its anthers, an affinity with the compound flowers; from which it is distinguished, however, by its two-celled capsule. It has a disagreeable odour, which when the plant is bruised becomes more powerful; the whole herb is milky, and is sometimes eaten by sheep. Linnæus says that these animals are very fond of its flowers. It varies much as to size.

Order XLVIII. LOBELIACEÆ.—THE LOBELIA TRIBE.

Calyx growing from the ovary, 5-lobed or entire; *corolla* of one petal, inserted in the calyx; *stamens* 5, free from the corolla, and alternating with its lobes; *anthers* united; *ovary* inferior, of 1—3 many-seeded cells, opening at the top. The plants composing this Order are either herbs or small shrubs, with alternate leaves, and without stipules. They contain a bitter milky juice, which in the plants of warm regions, where the species are more abundant, becomes very acrid.

1. Lobélia.—*Corolla* 2-lipped, the upper part split to the base of the tube; upper lip smaller and erect,

lower spreading, 3-cleft. Named in honour of Matthias Lobel, a Flemish botanist.

1. Lobélia (Lobelia)

1. *L. úrens* (Acrid Lobélia).—*Stem* nearly upright; lower *leaves* inversely egg-shaped, stalked, slightly toothed; upper ones lanceolate, sessile, serrated; *root* perennial. This is a very rare plant, found, indeed, only on heathy land near Axminster, in Devonshire. It has a leafy, somewhat rough stem, a foot or more high, and the light-bluish purple flowers are downy externally. They grow in erect, leafy, lax clusters, and expand in June and July. It is a noxious plant, full of a milky acrid juice, which will raise a blister on the skin, though neither of our native species can at all compare with several well-known foreign Lobelias in this respect. Some of these have highly poisonous juices. Thus *L. longiflóra*, of the West Indies, even destroys horses feeding upon it, and is hence called *Chatta cavallo*. It is grown in gardens in Spain, where it is termed *Rabienta cavallos*. Still more noxious than this is the *L. Tupa*, of which Feuillée says, that even the odour of the flower causes excessive vomiting, and that, if applied to the skin, it produces violent inflammation and pain. The juice of several species of Lobelia, if it touches the eyes, causes immediate pain; and such also, doubtless, would be the result with our native acrid kind. Some of the species, however, seem innoxious, and Thunberg mentions that the root of a Lobelia is commonly eaten in Japan; while in the case of *L. tenella*

the milky juice is mild and insipid. Several plants of the genus, growing in tropical regions, have a thick milky juice, which contains caoutchouc.

Neither of our wild species is common, but our gardens contain several well-known and handsome Lobelias. The rich scarlet Cardinal-flower, *L. Cardinális*, so frequent on our borders, was mentioned by Parkinson in the time of Charles I. as a "brave plant." It grows commonly by rivers and ditches, in many parts of North America. Still more brilliant in hue are the Refulgent and Splendid Lobelias (*L. fúlgens* and *L. splléndens*), which Humboldt and Bonpland introduced to our gardens, the first flowers of this kind grown there having been obtained from the seeds in the herbarium which these travellers brought with them from Mexico. The Splendid Lobelia is beautifully dashed with claret colour. The Cardinal-flower, so called from some resemblance in its blossoms to the scarlet hat of the cardinal, has its synonym in most countries of Europe. Thus, the Germans call it *Kardinalsblume;* the Dutch, *Kardinalsbloem*, and the Italians, *Fior Cardinale.* The little *L. grácilis*, so frequent in gardens, is, like our wild species, of blue colour, but the prevailing hue of the genus is scarlet.

2. *L. Dortmánna* (Water Lobelia).—*Stem* simple; *leaves* almost cylindrical, of two parallel tubes, blunt; *flowers* in a distant raceme; *root* perennial. This very elegant aquatic plant is found in abundance in the picturesque lakes of Cumberland and Westmoreland; but it is not confined to them, occurring in several pieces of water, especially such as lie among mountains in the

North and West of England, Scotland, and Ireland. The gravelly bases of our northern lakes are, in July and August, often covered with a thick matted carpet formed by its leaves, the flowering portion of the stem being usually the only part of the plant which rises above the water. This stalk or stem is slender, almost leafless, a foot or more high, having a long and distant cluster of light blue drooping flowers. A number of fibres creep forth and descend from a firm white fleshy root-stock; and the root as well as herbage of the flower contains a milky juice, which is much less acrid than that of most of the species. It received its specific name from Dortmann, an apothecary, who first sent it to Clusius.

Order XLIX. VACCINIEÆ.—THE CRANBERRY TRIBE.

Calyx growing from the ovary, of 4—6 lobes, which are sometimes from their shallowness scarcely perceptible; *corolla* of one petal, lobed like the calyx; *stamens* not united, twice as many as the lobes of the corolla, inserted into the disk of the ovary; *anthers* with two cells, opening by two pores, and often furnished with two awns; *ovary* with a flat disk, 4—10-celled; *cells* one or many-seeded; *style* and *stigma* simple; *fruit* a juicy berry, crowned by the remains of the calyx, containing many minute seeds. This Order consists of small shrubs, with undivided, alternate, often leathery leaves,

chiefly inhabiting mountainous regions, or those of high northen latitudes. The bark and leaves contain some astringency, and the berries have an acid and pleasant flavour.

1. Vaccínium (Whortleberry, Cranberry, &c.)—*Calyx* 4—5-lobed ; *lobes* sometimes very shallow ; *corolla* bell-shaped, or wheel-shaped, 4—5-cleft ; *stamens* 8—10 ; *berry* globose, 4—5-celled, many-seeded. Name of doubtful origin.

1. Vaccínium (Whortleberry, Cranberry, &c.)

* *Leaves not evergreen ; anthers with 2 bristles at the back.*

1. *V. Myrtíllus* (Bilberry, or Whortleberry).—*Stem* acutely angular ; *leaves* egg-shaped, serrated, smooth ; *flowers* solitary ; *root* perennial. This elegant shrub, which is sometimes called also Whinberry, is very abundant on some heathy, stony, and mountainous places. It is rarely more than a foot and a half in height, and much branched, numbers of these little bushes being generally found together ; for the Bilberry is a social plant. The wax-like drooping flowers appear in May among the delicate leaves : they are greenish-white, tinged with red. As autumn advances, the foliage assumes a rich, deep, myrtle-like verdure ; and the whortleberries, or "whorts," as country children call them, afford a very pleasant refreshment. These fruits, which are black, and covered with a grey bloom, are very juicy, and their quality is so astringent that they are a common

medicine in Arran and the Western Highlands. The Highlanders also eat them with milk, and make them into tarts and jellies, mingling them, too, with their whisky, to give it a higher relish. An old herbalist praises these berries as a remedy for many maladies, and says, "It is a pity they are not more generally used." When fermented, they afford an intoxicating liquor, and they are mixed with some wines to heighten their colour.

Various experiments have been made with these fruits in staining paper and dyeing linen of a violet colour, and they seem to afford a rich hue. The moor-fowls well know the worth of whortleberries as food. The young mountaineer eats them with delight, and many could say with Robert Nicholls,—

"And here are rich blaeberries, black and wild,
Beneath the beech-tree's thickest branches growing:
This makes me once again a wayward child,
A pilgrimage into the woodland going—
The haunt of squirrels and of wood-mouse knowing,
And plucking black blaeberries all the day,
Till eastward mountain-shadows night was throwing,
And sending me upon my homeward way,
Fill'd both in soul and sense with the old forest grey."

In the neighbourhoods of moorlands these fruits are often gathered, and carried about for sale; and in the West of England, many a merry party wanders forth to go a "whorting" over hills and rocky crags. Goats browse on the young branches, and sheep will occasionally eat the plant, though cows and horses refuse it. Coleridge gives us a beautiful sketch of just such a spot

as this plant often serves to adorn, a spot which, as we read the page, the mind involuntarily pictures:

> "I find myself
> Beneath a weeping birch (most beautiful
> Of forest trees, the lady of the woods!)
> Hard by the brink of a tall weedy rock
> That overbrows the cataract.
>
> At my feet
> The whortleberries are bedew'd with spray,
> Dash'd upwards by the furious waterfall.
> How solemnly the pendent ivy mass
> Swings in its winnow! all the air is calm."

Both this species and the Cowberry are very abundant in the north of Europe, the forests in Sweden being often quite covered with different kinds of whortleberry. The Swedes call this species *Blabar*, and the Cowberry *Lingou*. The Lapps call the whortleberry *Jokno*. In France the plant is called *Lairette*, and in Germany *Heidelbeere*; while the Dutch call it *Blaubessen*, and the Spaniards and Italians *Mirtillo*. The fruit is much eaten in Poland with cream and sugar, and the plant is in that country termed *Borrowki czarne*.

2. *V. uliginósum* (Bog Whortleberry, or Great Bilberry).—*Stem* rounded; *leaves* inversely egg-shaped, entire, glaucous, and veined beneath; *stalks* one-flowered; *root* perennial. This is the Bleaberry of the botanist; but, in country places, all the whortleberries share this name. It is quite an Alpine plant, often growing almost at the summits of mountains where there are bogs, both in the Highlands of Scotland and the north of England. This species is taller

than the last, its stem is more woody, and its more strongly veined foliage is of a glaucous hue. The drooping flesh-coloured flowers, which appear in May, are also smaller, and grow nearer together; and the black berries, though larger, and juicy and pleasant, are yet inferior to those of the last species. They are said to have narcotic properties, and, if eaten in large numbers, to produce a sensation of giddiness; while, if taken when over ripe, even in smaller quantities, they in some persons cause headache. Many of the vintners of France are said to use them in colouring their wines, and they yield a highly volatile and intoxicating spirit. The Alpine birds feed on these fruits; and the leaves of the shrub, mixed with the club mosses which so often abound on the spot where the plant grows, are used by the Icelanders in dyeing woollen yarn of a yellow colour.

* * *Leaves evergreen; anthers without bristles.*

3. *V. Vitis Idæa* (Red Whortleberry, Cowberry).—*Leaves* inversely egg-shaped, dotted beneath, the margins rolled back; *flowers* in terminal drooping clusters; *root* perennial. This is a low, somewhat straggling shrub, with firm evergreen leaves, which would at once remind us of the *Box*. It is common in the North on mountainous heaths, and bears, in May and June, small pink flowers with four deep lobes. The berries are red, and they may be made into an excellent jelly, which is far superior to that of the red currant for eating with game or venison. They are not, however, well fitted for eating in their uncooked state; for they are both acid and bitter in flavour,

and very astringent in their properties. In Derbyshire, the Cowberry tart is a common dish. In Sweden these fruits are very extensively used, and the jelly into which they are made is eaten with most kinds of roast meat. Linnæus tells us that they were sent in large quantities from West Bothnia to Stockholm for pickling, and that a very excellent gargle for inflamed throats is made from them. Small cuttings of this plant are, in Norway, placed in gardens around the edges of the flower-beds, instead of box. A Pennsylvanian species (*V. tenéllum*) furnishes a superior fruit; and another plant of this genus (*V. formosum*) is, in China, esteemed a sacred shrub, and its flowers are gathered at the commencement of each year, and placed as offerings on the shrines of the temples.

4. *V. Oxycóccos* (Marsh Whortleberry, Cranberry).—*Stem* very slender, prostrate, rooting; *leaves* egg-shaped, glaucous beneath, the margins rolled back; *corolla* wheel-shaped, with four deep reflexed segments; *root* perennial. This is a very local plant, growing on those wide-spread heathy bogs which are carpeted by the bright green mosses, and which are dangerous ground to any but the experienced footstep. On many tracts of this kind, in England, Scotland, and Ireland, the low straggling Cranberry bush grows in patches, its tough wiry stems, from eight to ten inches long, bearing in June the solitary terminal flowers, which are on long stalks, of a bright red colour, and have their segments turned back in a remarkable manner. The pleasant acid flavour of the Cranberry is well known, and this fruit is gathered both in England and Scotland for

sale. Lightfoot mentions that twenty or thirty pounds worth were sold each market-day, for five or six weeks together, at Langtown, on the borders of Cumberland; and it there forms to this day no inconsiderable article of trade, though most of the Cranberries which we see in the shops are sent in casks from America, and large quantities of these fruits are also exported from Poland, Russia, and Germany, into the various countries of Europe. Many people in Cumberland make wine from Cranberries. They are also preserved in bottles, the fruit needing no preparation, requiring only to be kept in a dry situation. Our English Cranberries, though not so large as those received from America, are not only equal, but even superior to them in flavour. Gerarde calls these fruits Fen berries. "They grow," he says, "in fennie places in Cheshire and Staffordshire, where I have found them in great plentie." The Dutch term them Fen-grapes. The English name of Cranberry is thought to have been derived from the flower-stalks, which are crooked at the top, and which, before the expansion of the blossom, resemble the arching neck and head of the crane. When packed in casks, these berries undergo a fermentation during a voyage, which somewhat injures their flavour. They might be readily cultivated on any marshy lands; and it has been said that their growth on such spots would prove remunerative, as a single plant soon covers a large space with its progeny. In Sweden, where the shrub is abundant, the berries are not eaten, and were, some years since, used solely for cleaning plate. They are a good astringent, and would probably aid in restoring the lost appetite. They were

formerly highly praised for their use in pestilential fevers. The French call the plant *Canneberge;* the Germans, *Moosebeere;* the Dutch, *Veenbessen;* the Italians, *Ossicocco;* the Spaniards, *Vacernia lagunosa.* The North American species (*V. macrocárpum*) has been found on Loughton Bog, Mould, Flintshire, but was in all probability planted there.

Order L. ERĪCEÆ.—THE HEATH TRIBE.

Calyx 4—5-cleft, nearly equal, inferior, remaining till the ripening of the fruit; *carolla* of one petal, 4—5-cleft, often withering, and remaining attached to the plant; *stamens* of the same number as the segments of the corolla, or twice as many, inserted with the corolla, or but slightly attached to its base; *anthers* hard and dry, the cells separating at one extremity, where they are furnished with bristles, or some other appendage opening by pores; *ovary* not adhering to the calyx, surrounded at the base by a disk or by scales, many-celled, many-seeded; *style* 1, straight; *stigma* 1; *fruit* a berry, or dry capsule, many-seeded. The Order consists of shrubs with opposite or whorled leaves, which are often rigid and evergreen, without stipules. Their properties are generally astringent, and some plants, like the Kalmia and Rhododendrons, are poisonous. The Heaths are most abundant in Southern Africa, especially at the Cape of Good Hope, and most of the brilliant and

elegant species of our hot-houses are brought from that region. Our native plants of this family often cover large extents of country, clustering in such multitudes over them, that the heath-land owes its name to the heather which covers it.

1. Erica (Heath). — *Calyx* deeply 4-cleft; *corolla* bell-shaped, or egg-shaped, 4-cleft; *stamens* 8; *capsule* 4-celled. Name from the Greek, *erico*, to break, from some fancied medicinal properties.

2. Callúna (Ling).—*Calyx* of 4 coloured sepals, which are longer than the corolla, having at the base outside 4 green bracts; *corolla* bell-shaped; *stamens* 8; *capsule* 4-celled. Name from the Greek, *calluno*, to cleanse or adorn, either from the use of its twigs in brooms, or for the beauty of its flowers.

3. Menziésia. — *Calyx* deeply 4—5-cleft; *corolla* inflated; *stamens* 8—10; *capsule* 4—5-celled. Named in memory of Archibald Menzies, a Scottish botanist.

4. Azálea.—*Calyx* deeply 5-cleft; *corolla* bell-shaped, 5-cleft; *stamens* 5; *anthers* bursting lengthways; *capsule* 2—3-celled and valved. Name from the Greek, *azáleos*, parched, from the nature of the places on which it grows.

5. Andrómeda.—*Calyx* deeply 5-cleft; *corolla* egg-shaped or bell-shaped, with a 5-cleft reflexed border; *stamens* 10; *anthers* with 2 bristles at the back; *capsule* dry, 5-celled.

6. Árbutus (Strawberry-tree).—*Calyx* deeply 5-cleft; *corolla* egg-shaped, falling early; *stamens* 10; *fruit* 5-

celled, many-seeded. Name from *ar*, rough, and *boise*, a bush, in Celtic.

7. Arctostáphylos (Bear-berry).—*Calyx* deeply 5-cleft; *corolla* egg-shaped, falling early; *fruit* fleshy, 5-celled, one-seeded. Named from *arctos*, a bear, and *staphule*, a grape, in allusion to the fruit.

1. Eríca (Heath).

* *Corolla globose or cup-shaped, stamens included.*

1. *E. ciliáris* (Ciliated Heath).—*Leaves* four in a whorl, egg-shaped, fringed with hair, the margins rolled over; *flowers* in terminal one-sided racemes; *anthers* without awns; *mouth of the corolla* oblique; *root* perennial. This plant is far more beautiful than any other of our native heaths, having, in June and July, bright purple flowers of exquisite oblong form, and half an inch in length, growing down the upper part of its stem, while the leaves are most delicately fringed with hairs. The stems are long and straggling, and the foliage of rich green. It is a very local plant, growing on heaths, as at Carclew, in Cornwall, and about Wareham, Dorsetshire. On one or two of the Cornish heath-lands it is as plentiful as the purple species, *E. cinérea*, is in England generally.

2. *E. Tétralix* (Cross-leaved Heath).—*Leaves* 4 in a whorl, narrow, fringed; *flowers* in terminal heads; *flower-stalks* white with down; *root* perennial. This species is, during July and August, very delicate and pretty, with its drooping cluster of pale pink, wax-like

flowers, which are almost white at the base. It is scarcely excelled in loveliness even by the beautiful heaths cherished in our greenhouses. It is abundant on moors and bogs, sometimes blooming on till late in autumn, having the lower part of its stem much branched, and very leafy, its younger leaves downy on the upper surface, and its style usually included within its pink cup.

3. *E. Mackáii* (Mackay's Heath).—*Leaves* 4 in a whorl, egg-shaped, fringed, smooth above, almost white beneath; *flowers* in heads somewhat umbellate; *flower-stalks* nearly smooth. This species much resembles the last, its broad egg-shaped leaves with their upper surface and midrib smooth being the most marked distinction. The stem is irregularly branched below, and the flowers, which appear in July and August, are smaller, and of a deeper purple than the last. It has been found in Cunnamara, in Ireland.

4. *E. cinérea* (Fine-leaved Heath).—*Leaves* in threes, very narrow, smooth; *flowers* egg-shaped, in crowded whorled, leafy clusters; *root* perennial. It is to the beautiful drooping reddish-purple bells of this species, mingled with the paler purple flowers of the Ling, that the wide heath-lands of England and Scotland owe most of their summer beauty, and present the rich hue which may be descried miles away. These two plants are usually included in the term Heather, though many botanical writers use that word as relating only to the Ling. Our fathers probably intended either by their word Hadden, which is the old name for heather; and, until late years, the Ling was placed in the Heath genus,

and termed *Erica vulgaris*. Mr. Thompson, remarking of the Heaths in general, says: "These plants, as their names imply, are found always on bog soil, and the component parts of that earth may be taken as similar everywhere, yet it cannot be denied that the heaths of different contiguous hills are extremely different both in kind and degree. Red Heather (*E. cinerea*) is the only species found for miles together on the greywacke of the Isle of Man; *E. Tetralix* the only species for several hundred yards on Blackstone Edge; the Ling is the only species for miles on the granite of Goat-fell, in the Isle of Arran. Each of these species may be seen in sufficient quantity wherever bog soil is found, but they may reasonably be claimed by those districts only where with equal climates they are produced in greatest luxuriance; and few observers of the common features of a landscape can have failed to notice the great diversity of character in these universal natives of our moors on the different geological arrangements of the country. Few can have omitted to remark the total want of them on bogs whose substratum is chalk or mountain lime; and many have been delighted with their abundance and surpassing beauty on the primitive ranges of Wales and Scotland. The Ling of Pont Aber Glas Lyn, near Beddegelert, yields to none in the richness of its flowers; and that of the gravel range of Avan, in the Frith of Clyde, is often three and a half feet in height, arborescent and erect, like the finest specimens of Cape heaths cultivated in our greenhouses. The poor natives of that island make an economical substitute for hemp from its twigs; and the roots occasionally thrown out of the soil

by the mountain torrent are two inches in thickness, and capable of a high polish, being nearly as hard as ebony. The Cape of Good Hope itself, which has supplied our exotic collectors with nearly 300 species of this genus, is one of the finest granite ranges in the world."

Heather tall and stout like this is rare, but every one can recal wide tracts of land which the plants cover in great luxuriance, especially in Scotland, which the poet has distinguished as the

"Land of brown Heath and shaggy wood."

Heath is the most social of plants, and it has been said that if other plants were to occupy the surface of the earth in the same proportion, there would not be room for more than five thousand species; though now, as Humboldt observes, it is probable that the actual number of species exceeds that spoken of in the old myth of Zendavesta. This tells that the primeval creating Power called forth from the blood of the Sacred Bull 120,000 different forms of plants; Professor Lindley says, that 92,000 plants are recorded, and that others are daily being added to the list.

The aspect of the Heath vegetation is remarkably striking, the fine-leaved Heath and Ling being the representatives in our land of the large family of *Ericeæ*, so numerous in southern regions, that in South Africa it quite determines the character of the vegetation. Immense tracts of land also in the north of Europe are quite covered with heather, which often grows so close that no other plant can find room on the soil; though on other parts it is somewhat less dense, and there bushes

of Juniper, Andromeda, and Ledum, take the place of our furze and broom, while immense quantities of bog moss and hair moss form a thick turfy carpet. It always grows on what is termed by agriculturists a sour soil, just such a soil as will admit of no culture, and this soil is abundant in Northern Europe.

But the Heath family has in the northern hemisphere but few representatives; the Cape of Good Hope may be called the country of the Heaths, though in the extreme south of Europe, and also in the Isle of Teneriffe, most beautiful arborescent species grow to a great height. Meyen says, that these have in their general effect a great resemblance to certain forms of the fir-tree tribe, their small needle-like leaves being, however, beautifully adorned by masses of elegant flowers, which are often of the most brilliant colours. Mr. Banbury, in his "Report on his Botanical Travels in South of Africa," says, that the *Ericæ* of the Cape, which, in their own country are not less beautiful than in our hot-houses, fall into three divisions, according to their locality. Some grow in company in great masses, like the European heaths, and cover large spaces; others, though very abundant, yet vegetate in a scattered manner among other plants; and, finally, there are species which are only found singly here and there in a cleft of the rock. He tells us that *E. cerinthoides* has the widest area, and is even found eastward of Grahamstown.

But we must return to our common fine-leaved purple Heath, which, however, may be found on rare occasions decked with bells white as snow, save where they are

varied by the little black-tipped anthers. The cottagers whose dwellings are about the moors, use it for many domestic purposes, and many a lowly home of worth and piety on Scottish moorland bids defiance to the bleak winds and storms by its well-woven thatch, made wholly of heather or of straw, bound down by a lattice-work of twigs. The cottage walls, too, are sometimes formed of alternate layers of heath and a cement made of black earth and straw—for black earth is always to be found where heather blooms—and where it has from time to time given its decayed remains as a manure to the soil. Many a hardy Highlander asks no softer couch than a strewing of heather; and even little children learn to turn the plant to good account, by twisting it into a strong sort of rope. In many of the Western Islands yarn is dyed of a yellow colour by means of its young twigs and flowers; and woollen cloth, first boiled in alum-water and then immersed in this decoction, becomes of a bright golden yellow. The Heath, too, is very astringent, and is sometimes used in tanning leather. Leather is said to become sooner saturated with heath-tan than with that made of bark; and in 1776 the discovery of its use was laid before the House of Commons in Ireland, and the account was ordered to be printed.

Old traditions, still extant in Ireland, tell that the Danes made beer of the Heath, but Boethius relates this of the Picts. The historian says, that in the deserts and moors of the realm there grows an herb named Heather, which is very nutritive to beasts, birds, and especially to bees, and which in the month of June

produces flowers as sweet as honey, and that of this the Picts made a delicious beer. The manner of making the heather beer perished with the extermination of the Picts, as they never showed it to any except to those of their own blood. Leyden adds, that the traditions of Teviotdale say that when the Picts were exterminated, a father and son alone remained after the slaughter, and that being brought before Kenneth the Conqueror, life was offered to the father on condition of his revealing the secret of making this liquor; and the son was put to death before his eyes in order to induce the old man to consent. This very exercise of cruelty, however, determined him more resolutely to keep the secret from the conqueror, and he said, "Your threats might have influenced my son, but they have no effect on me." The king then suffered the Pict to live, and the secret remained untold.

A recent writer, referring to this, says, "It is just possible that the grain of truth contained in this tradition may be, that all the northern nations, as the Swedes still do, used the narcotic Gale (*Myrica Galé*), which grows among the heather, to give bitterness and strength to their barley beer; and hence the ignorant belief that the beer was made chiefly of the heather itself. While we write, a newspaper paragraph has come under our eye, which states that a 'Mr. Harper, of Galway, shows to his visitors a large amount of bottled beer, manufactured by a metropolitan house from wild heath.' We should put more faith in this paragraph if the author or brewer would be good enough to substitute the word flavoured for manufactured." A liquid, called heather

beer, was commonly made in the Highlands some years since, and as the verse says,—

> "Sir Geoffrey the bold of the cup laid hold
> With Heath ale mantling high."

A Highland friend of the author's assures her that in summer-time, his father, a Scottish clergyman, commonly brewed a liquid so called, and of which the ingredients were gathered from a neighbouring moor. As this gentleman, however, cannot remember the exact mode of making it, it is not improbable that the bitter and narcotic Bog-myrtle may have entered into its composition. He says of this beer, that it was very pleasant in flavour, brisk and sparkling, but that unless drunk almost immediately after the brewing it became very sour.

Our red or purple Heather is indeed a boon to bees, but some persons say that honey made from it is narcotic—it is certainly of a dark hue. Leyden, in his lines on the flower, refers to its use to the insect race:—

> "The tiny heath-flowers now begin to blow,
> The russet moor assumes a richer glow,
> The powdery bells that gleam in purple bloom,
> Fling from their scented cups a sweet perfume;
> While from their cells, still moist with morning dew,
> The wandering wild bee sips the honied glue,
> In wider circle makes the liquid hum,
> And far remote the mingled murmurs come.
>
> "When, panting, in his shepherd's plaid involved,
> At noon the listless shepherd lies dissolved,
> 'Mid yellow crow-bells on the riv'let's banks,
> Where knotted rushes twist in matted ranks,
> The breeze that trembles through the startling bent
> Sings in his pleased ear of sweet content.

"Sweet modest flower! in lonely deserts dun,
Retiring still from converse with the sun,
Whose sweets invite the soaring lark to stoop,
And for thy cells the humid dew-bell scoop;
Though unobtrusive all thy beauties shine,
Yet boast thou rival of the purple vine!
For once thy mantling juice was seen to laugh
In pearly cups which monarchs loved to quaff,
And frequent wake the wild inspired lay
On Teviot's hills beneath the Pictish sway."

The Heath is the *Herde* of the Germans, and by the French the different species, with the Ling, are included in the name of *Bruyère*. In Italy the plant is called *Erica*, and in Spain *Brezo*. The Scripture writers refer to the Heath: "And he shall be like the heath in the desert," was the comparison of the prophet Jeremiah. But the Heath is so rare a plant in Palestine that there is little doubt but that the Juniper was intended.

* * *Corolla bell-shaped, or shortly tubular; anthers protruded.*

5. *E. vágans* (Cornish Heath).—*Leaves* 3 or 4 in a whorl, crowded, very narrow, smooth; *flowers* bell-shaped, shorter than the stamens, forming a leafy regular tapering cluster; *anthers* without awns; *root* perennial. This plant, which is well distinguished when in flower by its truly bell-shaped corolla, is very abundant on heaths on the southern promontory of Cornwall. It occurs in one or two other places in that county, and on the coast of Waterford. The Rev. C. A. Johns says of it,—"The stems are much branched, and in the upper parts very leafy, and from two to four feet high.

The flowers are light purple, rose-coloured, or pure white. In the purple variety the anthers are dark purple; in the white, bright red; and in all cases they form a ring outside the corolla until they have shed their pollen, when they droop to the sides. On the Goonhilley Downs in Cornwall, all these varieties of the Heath grow together in the greatest profusion, covering many hundreds of acres, and almost excluding the two species so common elsewhere." It flowers from July to September.

6. *E. Mediterránea* (Mediterranean Heath).—*Leaves* 4 in a whorl, linear, smooth, flat above, convex, with a central furrow below; *corolla* cup-shaped, twice as long as the calyx; *anthers* without awns; *flowers* in leafy racemes; *bracts* above the middle of the flower-stalk; *root* perennial. This plant, which is common in our gardens, and which there grows slowly to a large size, has, even when wild, a stem from two to five feet high, with many upright rigid branches; these terminate in flesh-coloured flowers about twice as long as the calyxes, the latter are also coloured. It is found on mountain bogs in the west of Mayo and Galway, Ireland, and on a few other spots in this kingdom. The plants which we have in the garden were introduced here from Spain long before it was known to be a native of this kingdom.

2. Callúna (Ling).

1. *C. vulgáris* (Common Ling, or Heather).—*Leaves* small, more or less downy (in one variety hoary), arranged in 4 rows on opposite sides of the stem and branches,

each leaf having 2 small spurs at the base; *corolla* small, bell-shaped, shortly-stalked, drooping, nearly sessile; *root* perennial. This plant, which is very abundant on heaths and moors, is a small shrub, with tiny bright green leaves, and its little flowers of a rich purplish lilac are very numerous and beautiful in July and August. The flowers remain on the plant long after the seed has ripened, and will preserve their colour not alone on its rigid branches, but long after being gathered, often forming a bouquet for the winter mantelpiece. It is an exceedingly beautiful plant, varying from a slightly downy condition to an absolute hoariness of foliage, and occasionally bearing white blossoms. It is not often that the foliage is white with down, but Mr. George Luxford relates that, on one occasion, when visiting Mosely Common soon after dawn, his attention was arrested by the appearance of water at a spot where on a previous visit he knew that he had not seen any. On arriving at the place, he found that this appearance was occasioned by the reflection of the rays of the morning sun on a very heavy dew lying on the hoary Ling which at that place quite covered some gently sloping ground. "*Callúna vulgaris*, in all its states," says this botanist, "is a very elegant plant. The red and the white-flowered varieties, with their smooth, deep green, closely imbricated leaves, are pretty and delicate; the hoary one is very beautiful, although not possessing the exquisite silvery appearance of the stems and under side of the leaves of the Lady's Mantle and Hoary Cinquefoil; but of all the varieties the pre-eminently lovely one is that with double red flowers. This variety is found wild in

Cornwall; a specimen in my herbarium has its branches covered for nearly its whole length with the crowded flowers, and sweeter resemblances of wreaths of roses cannot be conceived." The Ling is always one of the most ornamental plants in our British herbarium; we scarcely know of any other which so well preserves the tint both of its flowers and foliage for many years.

The Ling grows in abundance on barren Alpine moors, where scarcely any other plant is to be found. It occurs in every part of Europe, and is extremely profuse in the northern countries. Linnæus mentions, in his "Flora Lapponica," that in some districts through which he travelled scarcely any plant was seen save the heather, which so covered the ground as to render its extirpation impossible. The country people had, he says, an idea that there were two plants which would finally overrun and destroy all the earth, these were heather and tobacco.

The caterpillar of the Great Egger Moth (*Phalæna quercus*) feeds on the foliage of the Ling, and the branches afford shelter to grouse and other birds of the moorland, while they, as well as the birds of song, find many a meal in the seeds, which, well secured in their little seed-vessels, remain long on the plant. Sheep and goats sometimes browze on the Heath and Ling, and the latter is commonly made into brooms. It is said that several Highland lairds derive no small proportion of their revenues from the heather, which is sold throughout the kingdom when made up into these domestic implements. The turf with the Heath growing upon it is often cut up and dried for the winter fuel of

the cottager, or is pulled up for heating ovens, and for immediate use. Robert Nichols, who in early days was wont to pull the Ling to add to the comforts of the Scottish home, thus records the simple pleasure of the Heather-gathering:—

"I like to pu' the heather,
We're aye sae mirthful, where
The sunshine creeps atour the crags
Like ravell'd golden hair:
Where on the hill tap we can stand
Wi' joyful heart I trow,
And mark ilk grassy bank and holm
As we the heather pu'.

"I like to pu' the heather
Where harmless lambkins run,
Or lay them down beside the burn
Like gowans in the sun;
Where ilka foot can tread upon
The heath-flower wet wi' dew,
When comes the starmie o'er the hill
While we the heather pu'."

3. Menziésia (Menziesia).

1. *M. cærúlea* (Scottish Menziesia).—*Leaves* numerous, scattered, linear, minutely toothed; *flower-stalks* covered with glandular hairs; *flowers* 5-cleft, and with 10 stamens, forming terminal tufts; *root* perennial. This is a small branched shrub, naked below, but very leafy above, and bearing, in June and July, large beautiful cup-shaped flowers of pale purplish blue. It is common in North America, but rare in this kingdom, having been found on the Sow of Athol, in Perthshire, whence it is said to have been almost extirpated.

2. *M. polifólia* (Irish Menziésia, or St. Dabeoc's Heath).—*Leaves* egg-shaped, with the margins rolled back, white and downy beneath; *corolla* 4-cleft; *stamens* 8; *root* perennial. This shrub bears, in June and July, terminal leafy one-sided clusters of most beautiful large flowers, usually of a purple colour, but sometimes of wax-like whiteness, which hang drooping on short stalks. The bushy stems are about one or two feet long, and become prostrate after a time. It grows, though rarely, on some mountainous heaths of Ireland, and is abundant in Cunnamara.

4. Azálea (Azalea).

1. *A. procúmbens* (Trailing Azalea).—*Stems* prostrate and tangled; *leaves* small, smooth, and rigid, with the margins remarkably rolled back; *flowers* in short terminal tufts or clusters; *root* perennial. This, which is a plant of dry moory places, has little beauty which can compare with the showy Azaleas of our gardens and greenhouses. Its little clustered flowers, which appear in May and June, are flesh-coloured, and its stiff leaves are dark green. But China is the land in which the Azaleas are to be seen to perfection. Mr. Fortune says, "Most people have seen and admired the beautiful Azaleas which are brought to the Chiswick fêtes, and which, as individual specimens, surpass in most instances those which grow and bloom on their native hills; but few can form any idea of the gorgeous and striking beauty of these Azalea-clad mountains, where, on every side as far as our vision extends, the eye rests on masses of flowers of dazzling brightness and surpassing beauty. Nor is it

the Azalea alone which wins our admiration; clematis, wild roses, honeysuckles, the glycine, and a hundred others mingle their flowers with them, and make us confess that China is indeed the 'central flowery land.'" One of the species, *A. Póntica*, has acquired a great celebrity from having been believed to be the *Ægolethron* of the ancients. The disease, which afflicted the army of Xenophon in the celebrated retreat of the Ten Thousand, was supposed to have been caused by the honey made from the flowers of this plant. They exude a sweet juice, which is said to have intoxicating properties, and the honey gathered on the shores of the Euxine or Black Sea is at the present time believed to be deleterious from the same cause.

5. Andrómeda (Andromeda).

1. *A. polifólia* (Marsh Andromeda).—*Stem* woody, prostrate below; *leaves* narrow, pointed, their margins rolled, glaucous below; *flowers* drooping, in terminal tufts; *root* perennial. This plant, which grows in peaty bogs in the North of this kingdom, has several local names. It is called Wild Rosemary, Poly-mountain, Moon-wort, and Marsh Holy-rose. Linnæus, who had a fanciful imagination, gave it its name of Andromeda, because the plants of this genus grow on Alpine bogs and sea-marshes, and being thus, as he deemed, chained to rocks and dreary places, and surrounded by monsters of the deep, resembled the fabled Andromeda of ancient poetry. The flowers, which appear from May to September, are flesh-coloured and cup-shaped. The plant is more frequent at the North of

Europe than in this kingdom, and is common in Sweden, Denmark, Switzerland, and Germany, as well as on the bogs of America. A decoction of the plant is said by Gmelin to be very intoxicating, and to be used in Siberia as an inebriating liquor. The plant is also very acrid, and sometimes proves fatal to sheep. Another species, which grows in the United States, *A. mariána*, is so commonly injurious to these animals, that it has acquired the popular name of Stagger-lamb, or Stagger-bush, because it produces a disease in which they are seized with fits of trembling; while the *A. ovifolia* is said to cause the death of young goats which browze upon its shoots. Our marsh Andromeda contains some quantity of tannin, and has been used instead of nut-galls. In Lapland large tracts of land are covered as with a moss by the *A. hypnoides;* and both in the North of Europe and America several species are used medicinally. The tree Andromeda, found in the valleys of the Alleghany Mountains, is called Sorrel-tree, from its acid leaves, which are used by the hunters to allay their thirst, and from which a slightly acid drink is procured to relieve the thirst in ardent fevers. Dr. Joseph Hooker found the *A. fastigiata* in such abundance on the mountains of Nepal, that he terms it the Himalayan heather. He says it makes good fuel.

6. Arbutus (Strawberry-tree).

1. *A. Ũnedo* (Austere Strawberry-tree).—*Stem* woody; *leaves* elliptical, tapering, serrated, smooth; *flowers* in drooping panicles; *fruit* rough. No one who has ever visited the Lakes of Killarney can have failed to observe

how much their beauty is enriched and varied by the large dark masses of Arbutus which grow about their shores. Were the traveller, indeed, sufficiently unobservant to pass them without remark, the boatmen would most surely call his attention to their loveliness; nor would the visitor fail to be invited to the purchase of some little box, or set of chess-men, or bracelet, made of the beautifully veined wood of this handsome tree. Mrs. S. C. Hall remarks: "The tourist on approaching the Lakes is at once struck by the singularity and the variety of the foliage in the woods that clothe the hills by which, on all sides, they are surrounded. The effect produced is novel, striking and beautiful, and is caused chiefly by the abundant mixture of the tree-shrub, *Arbutus Unedo*, with the forest trees. The Arbutus grows in nearly all parts of Ireland, but nowhere is found of so large a size, or in such rich luxuriance, as at Killarney. The extreme western position, the mild and humid atmosphere—for in Ireland there is fact as well as fancy in the poet's image—

'Thy suns with doubtful gleam
Weep while they rise,'

and the rarity of frosts, contribute to its propagation, and nurture it to an enormous growth far surpassing that which it attains in any part of Great Britain, although, even at Killarney, it is never of so great a size as it is found clothing the sides of Mount Athos. In Dinis Island there is a tree the stem of which is seven feet in circumference, and its height is in proportion, being equal to that of an Ash-tree of the same girth, which stands near it. There are several others nearly as

large, and we believe one or two larger. Alone, its character is not picturesque; the branches are bare, long, gnarled, and crooked, presenting in its wild state a remarkable contrast to its trim-formed and bush-like figure in our cultivated gardens. Mingled with other trees, however, it is exceedingly beautiful, its bright green leaves happily mixing with the light or dark drapery of its neighbours—the Elm and the Ash, or the Holly and the Yew, with which it is almost invariably intermixed. It strikes its roots apparently into the very rocks, thus filling up spaces that would otherwise be barren spots in the scenery. Its beautiful berries, when arrived at maturity, are no doubt conveyed by the birds who feed upon them to the heights of inaccessible mountains, where they readily vegetate in situations almost destitute of soil."

The Arbutus is said to have been introduced to the shores of the Lakes by the monks of Mucross Abbey, but most of our botanists consider that it is truly wild on that spot, though probably not so in other parts of Ireland. It is a native of the mountainous regions of Southern Europe, as well as of Northern Africa, and of many parts of Asia. The ancient poets often alluded to the tree: thus Horace says—

"Now stretch'd beneath the Arbutus' green shade;"

and Virgil's direction is familiar to the classic reader—

"With leafy Arbutus your goats supply."

The tree during September and October bears very pretty, greenish white, wax-like bells, while the large red fruits of the last year are at the same time

on the bough, and only now attaining their rich red ripeness. Bishop Mant refers to its autumnal beauty:—

> "Go where the mountain bugle wakes
> The echoes of Killarney's lakes,
> And Glena's waving crags incline
> O'er sainted Mucruss' Abbey shrine,
> The Arbute opes its pensile bells:
> All beautiful itself, it tells,
> In concert with the fading woods,
> Of winds and equinoctial floods,
> Which soon their gather'd rage shall pour;
> And beauty on that distant shore
> Forsaken, left to bloom alone,
> Unnoticed on her desert throne."

We need hardly describe the dark orange-red fruit, covered with hard tubercles formed by the seeds, and as large as a cherry, to whose resemblance to the strawberry the plant owes one of its familiar names, though it is more often called Arbutus. This word is traced to the Celtic *Ar-boise* (Austere Bush), because of the harshness of the fruit; and we find traces of this word in the names by which the shrub is known in several of the continental countries. The French call it *Arbousier;* and it is the *Arbutus* of the Dutch, and the *Arbuto* of the Italians. The Spaniards call this evergreen *Madrona,* and the Germans *Landbeere;* and in Constantinople it is termed *Komaria.* It is rather amusing to find the plant called by our old writers Cain-apple, perhaps because the colour reminded them of the blood shed by the first murderer. Pliny says that the name *Unedo,* One I eat, was given because the fruit was not sufficiently good to tempt the taster to try a second.

Parkinson remarks of this plant: "Amatus Lusitanius, I thinke, is the first that ever recorded that the water distilled of the leaves and flowers thereof should be very powerful agaynst the Plague and poysons; for all the ancient writers doe report that the fruit hereof, being eaten, is an enemy to the stomacke and head. And Clusius likewise setteth downe that at Lishbone, and other places in Portingall, where they are frequent, they are chiefly eaten of the poorer sorte, women and boys." In the neighbourhood of Killarney the berries are commonly gathered, and offered in baskets for sale. They are, when fully ripe, perfectly wholesome, although their somewhat astringent properties would render it undesirable to eat very large numbers of them at one time, and in a half-ripened state they are very injurious. The flavour is to many people very pleasant, and in the warmer climates of the South is probably better than in this. In the markets of the south of Europe Arbutus berries are commonly exposed for sale; and the tree is abundant and beautiful in Italy, though it is not even there so luxuriant as on the limestone rocks of Killarney.

The rich green glossy leaves of this tree have been used by tanners in the preparation of leather; and sugar, wine, vinegar, and a spirituous liquor, have also been procured from the berries. Some of the exotic species of Arbutus are larger and handsomer than the common kind; and Baron Humboldt mentions one (*A. petiolaris*), the leaves of which are infested by a moth which affords a silk, used in Mexico in various manufactures.

7. Arctostáphylos (Bear-berry).

1. *A. alpína* (Black Bear-berry).—*Stem* prostrate; *leaves* wrinkled, serrated, inversely egg-shaped, netted with veins; *flowers* in terminal racemes; *root* perennial. This plant, which is not uncommon on the dry barren spots of many of the Highland mountains, has a long, woody, trailing stem. The flowers, which appear in May, are cup-shaped, white, and tinged with a flush of delicate rose-colour. In autumn the foliage is of a beautiful rich red hue, and the berries black; the leaves remain through the winter.

2. *A. Úva Ursi* (Red Bear-berry).—*Stems* prostrate; *leaves* inversely egg-shaped, entire; *clusters* terminal; *root* perennial. This is an abundant plant on the mountainous heaths of the North. It is a small evergreen shrub, with tough woody stems and rigid glossy leaves, having rolled margins. The flowers, which expand in May and June, grow in clouded clusters, and are of a bright rose colour; and the berries which succeed them are small and round, of a bright scarlet colour. They are mealy, and too dry and austere to be very pleasant, but are eaten by children with relish, and form the common food of the moor-fowl on the rocky heathy places where they abound. Dr. G. Johnston tells us that in Berwickshire these fruits are called Rapperdandies. They are used medicinally by the Highlanders, and their value has been confirmed by the testimony of medical practitioners; they are also sometimes gathered for the purpose of tanning.

Order LI. MONOTROPEÆ.—THE BIRD'S-NEST TRIBE.

Sepals 4—5, not falling off; *corolla* regular, deeply divided into as many lobes or petals as there are sepals; *stamens* twice as many as the lobes of the corolla; *anthers* opening by pores; *ovary* 4—5-celled, sometimes imperfectly so; *style* 1, often bent; *stigma* usually lobed; *fruit* a dry capsule; *seeds* chaffy, numerous. This order contains but three British genera, and no plants of any economical importance, though the *Pyrolas* are very pretty and fragrant flowers. The leaves are simple, smooth, veined, and often evergreen.

1. Monéses (Moneses).—*Petals* slightly connected at the base; *filaments* awl-shaped; *stigma* 5-cleft; *margins of the valves of the capsule* without any web. Name from *monos*, one, or alone, from the solitary flowers and combined petals.

2. Pýrola (Winter-green).—*Petals* 5, distinct; *filaments* awl-shaped; *stigma* 5-lobed; *margins of the valves of the capsule* connected with a web. Name from *Pyrus*, a pear, from a fancied similarity between its flowers and the pear blossom.

3. Monótropa (Bird's-next).—*Sepals* 4—5; *petals* 4—5, swollen at the base; *stamens* 8—10; *anthers* 1-celled; *stigma* flat, not lobed. Name from the Greek *monos*, one, and *trepo*, to turn, because the flowers all turn one way.

1. Monéses (Moneses).

1. *M. grandiflóra* (Large-flowered Moneses).—*Leaves* nearly round; *flowers* solitary, drooping; *root* perennial. This plant, which was until recently called *Pýrola uniflora*, is a very lovely though rare ornament of the mountainous woods of Scotland. It is a very singular plant, with scarcely any stem, bearing several roundish, stalked, and slightly serrated leaves, which are smooth and veiny; and having a single flower-stalk, from three to six inches high, which in July has a large, nearly white, sweetly-scented blossom, which, as Sir J. E. Smith observes, is one of the most curious and elegant of British flowers. Dr. E. D. Clarke remarks of it, when in Denmark: "Among the woods of Hunneberg, and beneath the shade of fir-trees, we found that beautiful plant, the *Pyrola uniflora*, rearing its pale, pendent, and solitary blossom near to the base of the mountain. As it was the first time any of us had seen this plant, and as it afforded the first specimen for our botanical collection, the sight of it was a gratification to all of us. The flowers were snow-white, and they had the fragrance of the Lily of the Valley." Although this species of *Pyrola* has been found in the South of France and the North of Italy, it is so truly an inhabitant of alpine regions, that it was never observed in Britain until the year 1783, when it was noticed for the first time in Moray, and in the remotest isles of the Hebrides. Before it expands its cups, the blossoms are of a globular form; and it always hangs its head like a snowdrop.

2. Pýrola (Winter-green).

1. *P. rotundifólia* (Round-leaved Winter-green).—*Leaves* nearly round, entire, or with the margins slightly notched; *flowers* in racemes; *style* bent down, and curved upwards at the end, much longer than the ascending stamens; *root* perennial. In a variety which has smaller leaves the flower-stalk has scales throughout its whole length. The species of Winter-green are often very difficult of discrimination, but this, which has far larger flowers than the others, is also marked by the length of its style, which exceeds that of the stamens and petals. The blossoms, which expand from July to September, are rather numerous, white, and spreading. At Guernsey this plant grows near the sea, among the reeds and damp woods; and bushy places and reedy marshes are the places of its growth; but it is very rare in this country. The plant has slightly astringent properties, and some other species of the genus, as *P. umbellata*, afford an excellent tonic medicine. These plants share with the pretty little *Trientális* the name of Winter-green, and this has its synonym in various European countries. The French call the plant *Pyrole;* the Germans, *Wintergruin;* the Dutch, *Wintergroen:* the Spaniards and Italians term it *Pirola.* It is the *Vintergrän* of the Danes, and the *Gruscha dikaja* of the Russians.

2. *P. média* (Intermediate Winter-green).—*Leaves* nearly round or roundish oval, with slightly rounded notches; *flowers* in racemes; *stamens* erect, shorter than the straight style, which protrudes a little beyond the

flower. The flowers, which expand in July and August, are numerous, and either of snowy-white hue or delicately tinged with rose-colour. They are neither so large as those of the round-leaved species, nor so fully blown. The plant occurs in woods in the north of this kingdom, as at Keswick in Cumberland, and in some of the woods of Northumberland and York; but it is not a frequent flower in England, and not general in Scotland, though perhaps less rare than either of the other species.

3. *P. minor* (Lesser Winter-green).—*Leaves* roundish oval, notched at the margin; *flowers* in racemes; *stamens* erect, as long as the very short, straight style which is included within the corolla; *stigma* large and rayed; *root* perennial. This species is at once distinguished from the last by its short and included style, and it is altogether a smaller plant. The flowers never seem quite to expand; they are on very short, partial stalks, numerous, and of pale rose-colour, appearing in June and July. The leaves too are numerous. It grows in woods and thickets, chiefly in the North of England and Scotland, and is a common plant in the Highlands.

4. *P. secúnda* (Serrated Winter-green).—*Leaves* egg-shaped, serrated; *flowers* racemed, all leaning one way; *stamens* bending, and about as long as the long, straight, much protruded style; *root* perennial. This species occurs, though rarely, in the North of England, in mossy woods, and is by no means unfrequent in the fir-woods of Scotland, especially in the Highlands. The greenish-white flowers are small and oblong, almost closed, and droop on their little stalks in July. The

stems are straggling and branched, and the leaves numerous. Dr. Hooker found a *Pyrola* in fir-woods of the Himalaya, blossoming among potentillas and purple primroses.

3. Monótropa (Bird's-nest).

1. *M. Hypópitys* (Yellow Bird's-nest).—*Flowers* in drooping, or sometimes erect racemes, in one form having the filaments, ovary, and style smooth, in another with these parts hairy; *root* perennial. This plant, which is called also Fir-rape and Pine Bird's-nest, is a very singular one. It is not common in any part of this kingdom, occurring only in some few dry fir and beech woods of England and Scotland. In Monk Wood, near Alton, it is however plentiful. It has a stout, erect, succulent stalk, without leaves or branches, but clothed with egg-shaped scaly bracts. This stalk is from six to nine inches high, and has, at its upper part, a cluster of drooping brownish yellow flowers, which when seen at a little distance look as if withered, but which are very succulent, and finally turn quite black. The flowers have all eight stamens, except the terminal one, which has ten. They appear in June and July.

The Bird's-nest has long been considered parasitic on the roots of the fir, and it has much of the general aspect of a parasitic plant; but it is now very generally believed that it is not a parasite, and Mr. Babington considers this circumstance as proved, and describes the plant, "not parasitical." The Bird's-nest is always found near the roots of trees. Mr. Rylands published,

Order LII. ILICINEÆ.—THE HOLLY TRIBE.

Sepals 4—6, imbricated when in bud; *corolla* 4—6-lobed, imbricated when in bud; *stamens* inserted in the corolla, equalling its lobes in number, and alternate with them; *filaments* erect; *anthers* 2-celled, opening lengthwise; *ovary* fleshy, abrupt, 2—6-celled; *stigma* lobed, nearly sessile; *fruit* a berry, not bursting, enclosing 2—6 stony nuts, each containing a seed. This Order consists of trees or shrubs with thick leathery evergreen leaves, and small axillary white or greenish flowers. The only European species is the common Holly, the leaves of which, like those of most of the plants of this Order possess astringent properties.

1. Ilex (Holly).—*Calyx* 4—5-cleft; *corolla* wheel-shaped, 4—5-cleft; *stamens* 4—5; *stigmas* 4—5; *berry* round, containing 4 seeds, enclosed in a nut-like covering. Name applied by the Latins to some tree, though not to our Holly.

1. Ilex (Holly).

1. *I. Aquifólium* (Holly).—*Leaves* egg-shaped, acute, shining, waved, with spiny teeth; *flower-stalks* axillary short, many-flowered; *flowers* somewhat umbellate; *root* perennial. The beautiful dark glossy Holly is a great ornament to those of our woods in which it occurs in abundance and attains a goodly size. It is, however, more commonly a large shrub than a tree, yet in the woods of Dumbartonshire there are trees more than thirty feet high; and the Holly-trees of Needwood Forest,

in Staffordshire, have long been renowned for size and beauty. In Bretagne, holly-trees are often to be seen fifty feet in height; and Bradley records that some of those at the Holly-walk, near Frensham, in Surrey, had attained the height of even sixty feet; while old hollies, thirty or forty feet high, with very large trunks, are to be found in various parts of this country. In woods where this plant is plentiful, as in some of the southern counties of England, it gives a peculiar feature to the landscape in winter; for at that season we have no native evergreen which is at all conspicuous, except this and the Ivy, and the masses of dark verdure yielded by these plants contrast beautifully with the naked outlines of the branches of the wood, as well as with the light tender green of the budding trees of spring. Its prickly glossy leaves and tough wood render it an excellent plant for hedges, and when Dutch horticulture prevailed in this country, and a certain formality in landscape gardening was generally cherished, many portions of land were enclosed within holly hedges. Except that it grows slowly, nothing can be better suited for a hedge than the impenetrable boughs of the Holly, lasting through centuries, looking bright at all seasons, and brightest at the darkest, unhurt by wind or weather, and strong enough to resist the sturdiest intruder. A hedge of Holly will, in about twenty years, attain the height of sixteen feet. Evelyn's holly hedge at Say's Court, which the Czar of Muscovy destroyed during his temporary residence there, had been a source of innocent delight to its owner. It was, says Evelyn, "beautiful at any time of the year, glittering with its

armed and varnished leaves, the taller standards at ordinary distances blushing with their natural coral." Bishop Mant, with a heart ever alive to all that is beautiful in nature, and a ready sympathy with all that is graceful in human feeling, thus refers to it:—

"And such was once thy Holly wall,
Good Evelyn, thick, extended, tall.
Thy hands disposed the seedlings fair;
They throve beneath thy fostering care;
Four hundred feet in length they throve,
Thrice three they rose in height above,
Glittering with arm'd and varnish'd leaves,
Secure 'gainst weather, beasts, and thieves:
Blushing with native coral red,
Refreshment and delight they shed
About thy path; and still diffuse
O'er thy mild page perennial hues.

But more endear'd,
Good Evelyn, is thy honour'd name
For true devotion's fervent flame,
From wild o'erheated fancies free,
Pure faith and duteous loyalty;
Who, when each tree of noblest kind
For sight, smell, taste, entranced thy mind,
Did still their glorious Author bless;
Nor to His holy volume less
Devoted in thy green retreat,
And with His Church in union sweet,
Held'st on thy lengthen'd pilgrimage,—
The truly wise, the Christian sage."

Beautiful holly hedges yet remain, which might vie with this renowned one. At Tyningham, the seat of the Earl of Haddington, there is a holly hedge two thousand nine hundred and fifty-two yards in length,

varying from ten to twenty-five high, with a base from nine to thirteen feet broad.

Many a hardy Holly is scattered over lonely moor-lands, such as Dartmoor, or some bleak Highland hill where human hand could never have planted it, though now sometimes it serves as a beacon to the mariner at sea, or to the traveller over pathless wilds. the Holly will thrive in places where the bleak winds would destroy every other tree. On the lofty cliffs near the old and renowned Castle of Dover, and in the grave-yard of the church where our fathers worshipped when the Gospel was first brought to Britain, there is now placed a Holly-tree. Long after the generation who planted it are laid beneath the sod, that tree, reared in memory of the Iron Duke, the hero of many battles, will probably survive in all its greenness, though on that bleak spot scarcely any other tree would outbrave the raving winds which come with the winter from land and sea.

The Holly grows in most of the countries of middle and southern Europe, as well as in some parts of Africa and Asia, but in few lands is it so large as in ours. Its timber is very firm and white, and well adapted for many purposes of art. It is often made into screens and work-boxes, which ladies adorn by their paintings; and it is dyed black for ornamental cabinet work, and is little inferior to ebony in hardness and in the high polish of which it is susceptible. It is also stained of various colours for the Tunbridge ware manufactories and blocks for the engraver are cut out of it, though for the latter purpose it is far inferior to Box.

The Holly will thrive on almost any soil, but the

people of Italy believe that the plant when growing wild indicates the presence of alum in the earth; and Evelyn said that coals might often be found where the Holly grows. The idea prevailing in Italy arose, as Beckmann tells us, from John di Castro. He used alum in dyeing cloth, and having observed that the Holly grew plentifully in the alumine districts of Asia, was induced, when seeing much of the plant in the neighbourhood of Jolfa, to search there also for this salt. He was confirmed in the opinion that alum abounded in his native soil by finding that the earth had an astringent flavour. His discovery led to the first alum works in modern Europe, which were established at Jolfa by means of Pope Pius II., and it led also to the erroneous idea of the connexion between the alum and the growth of the Holly.

The Holly was formerly called Holme, Hulver, or Hulfere. It is still used for whip-handles, and the use of its wood seems very ancient. An old writer says—

> "They their holly whips have braced,
> And tough hazel goads have got:"

and far earlier we find Chaucer referring to this use:—

> "The bilder oke, and eke the hardie ashe,
> The box, pipetre, the holme to whippes lash;
> The sailing firre, the cypres deth to plaine."

It is probable that to its old use of decking churches it owes its name of Holly, which is a corruption of the name Holy-tree, by which the monks called it. Its abundant growth gave the name of Holme Chase to a part of Dartmoor, and to Holmwood, near Dorking.

The plant is still called Holme in Devonshire. In Norfolk it is called Hulver, a name as old as Chaucer's poems, and doubtless much older :—

> "This herbere was full of flowers gende,
> Into the which as I beholde 'gan,
> Betwixt an hulfere and a woodbende,
> As I was ware, I saw where lay a man."

Skinner suggests that this name is either from the English word *hold*, and the Anglo-Saxon *feor*, long,—a plant that lasts long,—or from "hold fair," because it keeps its beauty all the year. The plant is in France called *Le Houx*, and is the *Stechpalme* of the Germans, the *Agrifoglio* of the Italians, and the *Acebo* of the Spaniards. The specific name *aquifolium* signifies needle-leaved. The Persians have a fancy that the Holly-tree casts no shadow; and they consider an infusion of its leaves as fitted to be applied to several sacred purposes. They also sprinkle it on the face of a new-born infant. Pliny tells of many superstitions concerning this shrub; he says, in the words of his translator, "As touching the Holly or Hulver-tree, if it be planted about a house, whether it be within a citie or standing in the countrey, it serveth for a counter-charm, and keepeth away all ill spells and enchantments." Among the other remarkable things connected with the plant, the Roman naturalist relates that its flowers would cause water to freeze, and that it repelled poison; while, if a staff of its wood were thrown to any animal, even if it fell short of touching it, the animal would be so subdued by its influence that it would return and lie down by it.

In our days the Holly has an associated interest, and

is dear to us all as emblematic of the season of festive enjoyments, of household gatherings, and of the joyous thanksgivings of the sanctuary for the greatest of all gifts ever bestowed on fallen man. Many a young heart bounds with joy at the sight of its glistening berries, while the eyes of older persons are filled with tears as they recal the looks and voices of those who are gone, and who were wont to gather with them around the Christmas fire. Country people, indeed, commonly call the Holly-bough "Christmas," from the season which it adorns. The custom of decking houses and churches with the plant is one of high antiquity. It seems most probable that it was derived from the practice of the Romans, who at that season sent boughs to their friends during the festival of the Saturnalia. In many cases, customs of this kind were gradually adopted by the early Christians, and connected with their own faith. Houses and temples were then decked with holly, and Christmas Eve was marked in the Calendar as "*Templa exornantur*,"—"Churches are decked:"

"And there are they who on this social eve
Its old observances with joy fulfil,
Their simple hearts the loss of such would grieve,
For childhood's early memory keeps them still,
Like lovely wild-flowers by a crystal rill,
Fresh and unfading; they may be antique,
In towns disused; but rural vale and hill,
And those who live and die there, love to seek
The blameless bliss they yield, for unto them they speak.

"And therefore do they deck their walls with green;
There shines the Holly-bough with berries red;
There too the yule-log's cheerful blaze is seen
Around its genial warmth and light to shed:

Round it are happy faces, smiles that spread
A feeling of enjoyment calm and pure,
A sense of happiness home-born, home-bred,
Whose influence shall unchangeably endure
While Home for English hearts has pleasures to allure."

Sheep browse on the leaves of the Holly, and the deer and rabbit feed on them in winter. They abound in a glutinous substance which is used in making bird-lime, and the bitter principle of both leaves and bark has been of service in intermittent fevers. Dr. Rousseau of Paris made very extensive experiments on the decoction of Holly, and discovered therein the existence of a hitherto unknown principle, called Ilicine, which appears to be of more service in some cases than even Peruvian bark. Some species of Ilex yield, in other countries, important medicines; the *Ilex vomitória* affords the celebrated Apalachian Tea of North America, which the Indians assemble to drink in large draughts medicinally. No less renowned is the *I. Paraguénsis*, the *Yerb maté*, or Jesuit's Tea, of Paraguay, which forms a favourite infusion, drunk at all times of the day by natives of Paraguay, La Plata, Peru, and Quito, and which is made, like our tea, by putting a handful of leaves into a teapot, and pouring boiling water upon them. The Creoles are so fond of this beverage, that they never travel without some of the maté leaves. More than five millions of pounds of this tea are annually exported from Paraguay. The natives boast of the innumerable excellences which the tea possesses; and it is certainly very remarkable, that recent researches have proved the existence, in this infusion of the Holly, of the bitter tonic substance called by chemists *theine*, which renders the

Chinese tea so refreshing, and which is identical with the caffeine of the coffee berry. Liebig, referring to Tea and Coffee, says: "We shall certainly never be able to discover how men were led to the use of the hot infusion of the leaves of a certain shrub, or a decoction of certain roasted seeds. Some cause there must be to explain how the practice has become a necessary of life to whole nations. But it is surely still more remarkable that the beneficial effects of both plants on the health must be ascribed to one and the same substance, the presence of which in two vegetables belonging to different natural families, the produce of different quarters of the globe, could hardly have presented itself to the boldest imagination."

The flowers of the Holly are small, white, and thick like wax, growing in tufts in the axils of the leaves in May and June. The leaves are alternate, deep green, shining, very rigid, the upper ones often without spines, the lower usually very spinous. The bark on the young branches is green, and on the older ones ash-coloured: the berries are ripe in September, and hang on the bough nearly through the winter.

Order LIII. OLEACEÆ.—THE OLIVE TRIBE.

Calyx divided, not falling off, sometimes wanting; *corolla* of 1 petal, 4-cleft, sometimes wanting; *stamens* 2, alternate with the lobes of the corolla; *ovary* 2-celled; *cells* 2-seeded; *style* 1; *fruit* a berry, drupe, or capsule of 2 cells, each cell often perfecting but a single

seed. The Order consists of trees or shrubs with opposite leaves, either simple or compound, and the flowers grow in clusters. They inhabit the temperate regions of most parts of the world. The most important plant is the Olive, so familiar to our minds as connected with some of the most interesting events of sacred history, and which is among the earliest cultivated plants. This tree grows freely in the South of Europe, and occasionally bears fruit in this country, but the produce is scanty and uncertain.

1. Ligústrum (Privet).—*Corolla* funnel-shaped, 4-cleft; *calyx* with 4 small teeth; *fruit* a 2-celled berry. Named from *ligo*, to bind, from the use made of its twigs.

2. Fráxinus (Ash).—*Calyx* 4-cleft or wanting; *corolla* none; *fruit* a winged 2-celled capsule. Name, the Latin name of the tree, alluding to the ease with which the timber splits.

1. Ligústrum (Privet).

1. *L. vulgáre* (Privet).—*Leaves* narrow, elliptical, entire, smooth; *panicles* terminal, compound, dense; *root* perennial. We have often thought, when looking at this shrub when in flower, that its old name of Primwort, or Primprint, was very expressive of its neat and somewhat formal appearance. It, however, doubtless owed this to its having been one of the plants selected by the old gardeners for cutting into various forms, and which, therefore, wore to the eyes of our fathers an artificial formality. It is very common in our hedges

bearing even in winter numbers of dark, somewhat dull green leaves, and bunches of black glossy berries, as large as currants. In May and June its pyramidal clusters of white flowers are abundant, having a slight but somewhat unpleasant odour, and soon assuming a dull yellowish-brown hue. The Privet is one of the few shrubs which thrive under the shadow and drip of trees, and it is, therefore, often planted in shrubberies; while, from its bearing smoke without injury, it is commonly found in the gardens of London and other large towns. The flexible boughs are occasionally used, like osiers, for baskets and various rustic purposes. One of our old writers says of this plant: "Our common Privet is carried up with many slender branches to a reasonable height and breadth, to cover arbours, bowers, and banqueting-houses, and wrought and cut into so many forms of even horses, birds, and other things, which though at first supported, groweth afterwards strong of itself." The writer proceeds to relate how the Privet was praised for its medicinal virtues by Dioscorides and Galen, and says that Matthiolus considers that oil made of the flowers of the Privet, and set in the sun, is "singular good for the inflammation of wounds, and for the headache." He adds, that a distilled water was often made of the flowers.

The berries are, in our days and country, the most useful part of the plant. They are perfectly innoxious, and many birds, especially partridges and bullfinches, will feed upon them; but, from the length of time which they remain on the tree, we must infer that as long as the fruits of the hawthorn, mountain ash, and other

favourite berries are attainable, those of the Privet are neglected. They are sometimes mixed by dyers with the berries of the buckthorn, and a good pink as well as green dye may, by different modes of preparation, be procured from this plant. An oil, useful for various domestic purposes, is also expressed from the berries, and their juice enters into the pigment of the artist commonly called sap-green. Glove-manufacturers use the fruit in giving the black colour to kid. A friend of the writer's saw boys gathering them into baskets in large numbers for this purpose both in Gloucestershire and Somersetshire, where the shrub is very plentiful. The young twigs of this plant are used in Belgium and Silesia by tanners.

The *L. lúcidum* of China yields a vegetable wax, used in that country for many purposes. The wood of our wild plant is fitted for the turner. Several insects feed on its foliage; the Blister beetle, from whose wing-cases cantharides are procured, is sometimes found on the leaf. The caterpillars of several moths also live on it. One of these is so frequent, that it has received the name of the Privet hawk-moth. It is a large and handsome insect, of a bright colour, striped with purple and white.

2. Fráxinus (Ash).

1. *F. excélsior* (Common Ash).—*Leaves* pinnated; *leaflets* egg-shaped and lanceolate, pointed and serrated; *flowers* without calyx or corolla; *root* perennial. A form of the tree occurs in Devonshire with simple and pinnate

leaves, which is the *F. heterophýlla* of some botanists. Long after many of the trees of our woodlands are in the full leaf of advanced spring, this noble tree with its ash-coloured bark is still without a spray of green, and its twin black buds stand in conspicuous array on the flattened twigs. Bishop Mant well describes them:

> "Its buds, on either side opposed
> In couples, each to each, enclosed
> In caskets black and hard as jet,
> The ash-tree's graceful branch beset:
> The branch, which, clothed in modest gray,
> Sweeps gracefully with easy sway,
> And still in after life preserves
> The bending of its infant curves."

When May comes round with its verdure and bloom, the Ash is well clothed with its masses of light sprays; and scarcely a forest tree is more beautiful, and few, save the poplar, send out their branches higher towards the sky. Virgil termed the Ash *pulcherrima sylvis;* and well did Gilpin name it the Venus of the Forest, while he called the Oak its Hercules, for the light and graceful form of the Ash stands in wrong contrast to the sturdy gnarled Oak. This writer, in his work on Forest Scenery, thus graphically describes the former tree: "Its branches at first keep close to the trunk, and form acute angles with it; but as these begin to lengthen, they generally take an easy sweep, and the looseness of the leaves corresponding with the lightness of the spray, the whole forms an elegant depending foliage. Nothing can have a better effect than an old ash hanging from the corner of a wood, and bringing off the heaviness of the other foliage with its loose pendant branches."

The Ash rises freely from seed; and very pretty, in the months of May and June, is a plantation of ash saplings, especially when varied with woodland flowers growing around their roots. The stems and branches of the young trees, about four or five feet high, have not yet wholly assumed that pale ash colour which gave the tree its familiar name; but the upper portions are of a most beautiful purplish-brown colour, and are as smooth and glossy as silk. If the soil is good, the young saplings soon rise to goodly size, and put forth their flowers, destitute of corolla and calyx. The Ash grows very rapidly, and is well worthy of its old name, "the Husbandman's Tree," and is fitted to turn to good account for ladders, hop-poles, hurdles, and all sorts of agricultural implements. If some stream winds its way by an ash plantation, making the soil rich and moist, the Ash will soon overtop the oaks of many years' growth, and will send forth its horizontal roots, whose branches will shortly become covered with fibres. In such a soil the roots will extend to a great distance, and form a kind of underground drain, so as to justify the old country proverb, "May your foot-fall be by the root of an ash." In such a place the Ash will yield its foliage so luxuriantly, that the cattle will come in the heat of noon to lie beneath its shadow, and the rambler in the country in search of wild flowers may seat himself at its trunk, to survey the landscape from the greenest and coolest of leafy retreats.

But these roots of the Ash, so useful by the sides of streams and rivers in supporting the soil of the bank and carrying off the moisture, are very inconvenient on

the borders of corn or meadow lands. They check most effectually the growth of the pasture plants, and their fibres prove a hindrance to plough or harrow; while neither corn nor grass will grow well beneath the shadowy screen, or the moisture which, condensing on the leaves, falls in drops on the plants below. The woodland is the place most fitted for the Ash, and there we most frequently find it; but it will not grow so well near stagnant water. Cattle browse upon such of the branches as they can reach. The Romans prized ash-leaves for fodder more than modern graziers do. In Lancashire, however, ash-boughs are lopped to serve in Autumn as food for cattle; and in Queen Elizabeth's time the practice seems to have been carried to a great extent in this country; for the inhabitants of Colten and Hawkeshead Fells were highly indignant against the number of forges raised there, because, as they said, these consumed the boughs and leaves which they required for the winter food of their cattle. The leaves are readily eaten by deer, and are said to be used with sloe-sleaves in adulterating tea. They are certainly less objectionable for this purpose than most of the ingredients so used, and Willich says that their tonic properties are superior to those of the Chinese leaf. In our country the leaves are very little infested by the insect race, frost and time being their two great enemies, leaving them fewer and more scattered; but on the Continent the foliage is much injured, and rendered of a most disagreeable odour, by the Spanish blister-fly (*Cantharis vesicatoria*), which has, when living, an unpleasant scent, and which, dying on the tree, and

leaving its remains to crumble to powder, is sometimes inhaled by those who sit beneath the boughs, and produces most serious inflammatory results. On this account the Ash-tree is not, in France, planted near towns and villages; but in England this beautiful beetle is too rare to prove an annoyance. The late coming and the early falling of its leaf is a slight disadvantage to the picturesque effect of the tree.

The pendent winged seeds of the Ash are commonly termed *keys*, and in Kent are often called *spinners*, because they spin through the air in falling. The wings are not in pairs, like those of the maple, though like them they have a flattened appendage, which, by floating the seeds on the wind, becomes a great means of their dispersion. The old notion, that when these keys are abundant a severe winter will follow, is still retained in country places; though their repute for medicinal properties has probably quite passed away. An old writer affirms—"The young tender tops with the leaves, taken inwardly, and some of them outwardly applied, are singularly good agaynst the biting of adder, viper, or any other venemous beasts; and the water distilled from them, and taken every morning fasting, is thought to abate corpulence." A decoction of the leaves is still esteemed a good febrifuge. The keys were believed to have the same effects as the leaves. Both Pliny and Gerarde held that there is such an antipathy between the adder and the ash-tree, that if an adder were encompassed by ash-leaves it would refrain from biting. Evelyn says that in his day ash-keys were preserved with salt and vinegar, and sent to table as a sauce,

and that being pickled they afford a "delicate salading." Branches of the Ash-tree are still sometimes hung about beds, to keep away gnats and other insects. The plant was in former years much connected with charms and other superstitious practices, most of which are happily disappearing before the increase of general knowledge, and the wide dissemination of religious truth. More than one writer, however, of recent date, tells of some pollard ash hollowed out by age, which is even yet prized by neighbouring villagers as a "Shrew-ash." White mentions one of these trees, which about his time stood in the village of Selborne. "At the corner side of the Plestor, or area near the church," says this naturalist, "there stood, about twenty years ago, a very old grotesque pollard ash, which for ages had been looked upon with no small veneration as a shrew-ash. Now, a shrew-ash is an ash whose twigs or branches, when gently applied to the limbs of cattle, will immediately relieve the pains which a beast suffers from the running of a shrew-mouse over the part affected; for it is supposed that a shrew-mouse is of so baleful and deleterious a nature, that wherever it creeps over a beast, be it horse, cow, or sheep, the suffering animal is afflicted with cruel anguish, and threatened with the loss of the use of the limb. Against this accident, to which they were continually liable, our provident forefathers always kept a shrew-ash at hand, which, once medicated, would maintain its virtues for ever." A shrew-ash, it seems, was made by boring a hole into the body of the tree, into which living tomb a poor little shrew-mouse was thrust, and securely fastened, probably with magic

ceremonies unknown to the men of our generation. Happily, no more shrew-ashes can be made, since the needful incantations are no longer in existence.

The bark of the Ash-tree is useful in tanning, and when burnt it yields a considerable quantity of potash. The ancients had a great veneration for the Ash, and the heroes of Homer are represented as armed with the ashen spear. The Romans used its wood for warlike weapons and agricultural implements. In the sacred book of the Northmen, the Edda, it holds a very conspicuous place.

This tree is mentioned once in Scripture, where the prophet Isaiah says, "He heweth him down cedars, and taketh the cypress and the oak, which he strengtheneth for himself among the trees of the forest: he planteth an ash, and the rain doth nourish it." The word rendered Ash by our translators is, however, thought to refer to the pine-tree, and is so translated in the Greek Septuagint and Latin Vulgate, and this opinion has been agreed to by Calvin, Bochart, and other learned critics. Our native Ash does not occur in Palestine, though the *Ornus Europæa*, or Manna Ash, is found there, but being a cultivated plant, was probably introduced.

The Ash does not grow to so large a size as some other of our forest trees, but Dr. Plot mentions a tree which was eight feet in diameter; and Arthur Young tells of one in Ireland, which had reached the height of nearly eighty feet in thirty-five years. The great Ash at Woburn, which Mr. Strutt has figured in his "Sylva Britannica," is larger and higher still. The height of

this noble tree is ninety feet; at the ground it is twenty-three and a half feet in circumference, twenty at one foot, and fifteen feet three inches at three feet, from the ground. The diameter of its extended boughs is one hundred and thirteen feet, and it contains eight hundred and seventy-two feet of timber.

The Ash is indigenous to the greater part of Europe, the north of Africa, and some parts of Asia. Professor Jameson, however, doubts if it is truly a native of Scotland, because, if it had formed part of the ancient forests, some traces of the tree would most likely be found in the peat-mosses; yet in these neither ash-seeds nor beech-mast are discovered, though in many peat-mosses hazel-nuts and fir-cones are to be found in abundance. The French call the Ash *Le Fréne*. It is the *Esche* of the Germans, the *Frassino* of the Italians; and both the German and English names are either from the Celtic *aesc*, pike, or from the greyish tint of the bark of the tree.

Order LIV. APOCYNEÆ.—THE PERIWINKLE TRIBE.

Calyx deeply 5-cleft, not falling off; *corolla* regular, 5-lobed, the lobes twisted when in bud; *stamens* 5, inserted in the tube of the corolla; *anthers* distinctly 2-celled; *pollen* large; *ovary* 2-celled, or double; *styles* 2—1; *stigma* 1, contracted in the middle; *fruit* various. The Order consists of trees, shrubs, or herbaceous plants, with handsome flowers, remarkable for the twisted form

of the corolla while in bud, which have been compared to the rays of a Catherine's wheel, whence Linnæus termed the Order *Contortæ;* and also for the beautiful column-like pistil. Several of them have milky juices of an acrid and caustic property; and some of the most powerful poisons, as the celebrated Tanghin poison of Madagascar, are produced by this Order. The Oleander, so beautiful an ornament to our conservatories, has acrid and poisonous leaves and roots; and meat roasted on spits made of its boughs has proved fatal to those who ate it. All the plants, however, are not poisonous, for the celebrated Cow-tree belongs to this Order, and its cream-like juice often affords the natives of British Guiana a wholesome and nutritive meal. Caoutchouc is yielded by another plant of this Tribe.

1. Vínca (Periwinkle).—*Corolla* salver-shaped, with 5 angles at the mouth of the tube, 5-lobed, the lobes oblique; *fruit* consisting of 2 erect horn-like capsules which do not burst. Name, from the Latin *vincio*, to bind.

1. Vínca (Periwinkle).

1. *V. minor* (Lesser Periwinkle).—*Stem* trailing, sending up short, erect, leafy shoots which bear the flowers; *leaves* oblong, their margins not fringed; *root* perennial. Of the two species of Periwinkle found in our woods, this only can be considered as truly wild. It is very ornamental to such spots as produce it plentifully, as in some woods in the west of England, where

it covers a wide extent of ground with its bright glossy leaves. It has blue, and in some specimens white flowers, which expand from March till June; and the foliage of both this and the next species remains green through the winter; hence the Germans call these plants *Sinngrun*. Its juice is acrid, and is so astringent that the plant has been used in tanning.

2. *V. májor* (Greater Periwinkle).—*Stem* almost erect; *leaves* egg-shaped, heart-shaped at the base, their margins fringed; *segments of the calyx* awl-shaped, and fringed; *root* perennial. This is a naturalized plant, often found in our woods, and on the margins of streams, though generally near enough to houses to give good reason for believing that it is the outcast of a garden. Its stem, which is much more erect than that of the lesser species, often ascends several feet high, and may be trained so as to twine about pillars, or around the walls of an arbour. Both leaves and blossoms are twice as large as those of the other plant, but the most distinct specific character is found in the fringed margins of the leaves and calyx of this species. The rich purplish blue flowers expand in April, and continue in bloom throughout the summer; they have a white rim at the base of the limb, and are, as Hurdis says—

> "Pentagonally formed, to mock the skill
> Of proud geometer."

The stems of both species are tough, and are flexible enough to merit their scientific name from *vincio*, to bind. The origin of its familiar name is not so obvious as this. The Anglo-Saxons called the plant *Peruince;*

in the time of Chaucer it was called *Pervenke;* the French still call it *Pervenche,* and the Italians and Spaniards, *Pervinca;* though among the former people it is also commonly called *Centocchio,* or Hundred-eyes, while the Italian peasants, who twine it around the head of the departed infant or young maiden, call it *Fior di Morto,* Death's-flower. The Greeks term the plant *Daphnoïdes,* because of the laurel-like tint and texture of its glossy leaves. In Holland wreaths of the Periwinkle are commonly worn about the heads of young girls, and the plant is there called *Maagdepalm.* In France it has many country names, several of them significant of the connexion of the plant with the practices of magic; such is its name of *Violette des sorciers;* while its old French name of *Pucellage* connects it with the Virgin, and in most of the continental nations the flower is worn either in life or death by young maidens.

In Poland the Periwinkle is commonly called *Plicaria,* because it has been considered successful in arresting or curing that dreadful disease, the Plica Polonica, in which the hair forms an entangled mass, which, if cut, is said to cause the death of the patient. The plant is decidedly astringent, though acrid, and our fathers valued its medicinal properties. Parkinson tells us that the leaves held in the mouth will stay the bleeding of the nose; and the best of all our early naturalists, John Ray, recommends it not only as a remedy for toothache, but as fitted to fasten the teeth which are loose. Most of the old writers on plants praise its efficacy as a gargle to heal the diseased throat; and Lord Bacon tells us that, in his days, bands of green periwinkle were bound

about the limbs to prevent cramp. Coles, who wrote in 1657, tells of a friend of his who was "vehemently tormented with the cramp for a long while, which could be by no means eased till he had wrapped some of the branches hereof about his limbs."

Mr. Phillips, in his "Flora Historica," describes the structure of the pistil of this flower; and this organ well deserves our attention, for it is, both in this and the smaller species, most beautiful. "The style of this flower," he remarks, "is of a full orange colour, bearing two distinct circular plates, the lower one of which is of a rich orange hue, and the top one white, which may be compared to a shilling placed on a guinea. On the top of the white plate there is a short green elevation which is crowned with five drooping feathery substances that form a rosette, whose purpose seems to be that of confining down the overhanging parts of the anthers, without entirely excluding the air, which can pass through the feathery nature of the crown." These plants, propagating themselves freely by the root, seldom produce seed-vessels. Mr. Curtis says, that he has never seen a single seed, nor has the writer of these pages ever found one on the plants either of wood or garden. But Miller observed that the plant may be made to produce its seeds by cutting off all the lateral shoots. Tournefort, who examined the plant in Provence, Languedoc, and near Lisbon, in all which places it is very abundant, never saw it in fruit.

Few who look at the Periwinkle clumps, so common now in gardens and shrubberies, are aware that it is one of the oldest flowers of the English garden, and the

rival of those earliest favourites, the Stock-gillyflower and the Rose. Chaucer, describing a garden in the olden time, says:—

"There sprang the violet al newe,
And fresh Pervincke riche of hewe,
And flouris yelowe, white, and rede;
Such plente grewe then in the mede;
Ful gaie was al the ground, and quaint,
And poudred as men had it peint,
With manie a freshe and sundrie floure,
That castin up full good savoure."

And elsewhere we find this lover of birds and flower saying—

"There lacked not
Ne not so muche as floure of brome,
Ne violet, ne eke Pervinke,
Ne floure none that men can thinke:
And manie a rose-lefe full long
Was entermeddled there emong
And also on his heade was set
Of rosis redde a chapilet."

END OF VOL. III.

University of California
SOUTHERN REGIONAL LIBRARY FACILITY
305 De Neve Drive - Parking Lot 17 • Box 951388
LOS ANGELES, CALIFORNIA 90095-1388
Return this material to the library from which it was borrowed.

UC SOUTHERN REGIONAL LIBRARY FACILITY
A 000 631 931 3

QK306
P7
1873
v.3

Pratt, Anne

The flowering plants, grasses, sedges, and ferns of Great Britain, and their allies, the club mosses, pepperworts and horsetails.

QK306
P7
1873
v.3

Pratt, Anne

The flowering plants, grasses, sedges, and ferns of Great Britain, and their allies, the club mosses

AGRICULTURAL LIBRARY
UNIVERSITY OF CALIFORNIA
CITRUS RESEARCH CENTER AND
AGRICULTURAL EXPERIMENT STATION
RIVERSIDE, CALIFORNIA

Unive
So
L